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UNDERSTANDING THE FACTORS THAT SUPPORT OR INHIBIT LIVELIHOOD DIVERSIFICATION IN COASTAL CAMBODIA



Jock Campbell, Philip Townsley, Emma Whittingham, Ansen Ward, Sem Viryak, Sim Bunthoeun, Heng Ponley, Em Dyna, Nut Ly, Phork Panha, Chhun Sony, Chap Sopanha, King Sophany, Iem Mayonry, So Sreymom and Nith Chhin

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PROJECT TEAM

Jock Campbell	IMM Ltd
Philip Townsley	IMM Ltd
Emma Whittingham	IMM Ltd
Ansen Ward	IMM Ltd
Sem Viryak	CFDO/DoF
Heng Ponley	CFDO/DoF
Nut Ly	CFDO/DoF
Chhun Sony	CFDO/DoF
Iem Mayonry	CFDO/DoF
King Sophany	Provincial Fishery Office, Kampot.
Sim Bunthoeun	CBNRM LI
Em Dyna	CBNRM LI (PMCR/IDRC)
Phork Panha	CBNRM LI (Ministry of Environment)
Chap Sopanha	CBNRM LI
Nith Chhin	CBNRM LI (Ministry of Environment)
So Sreymom	CBNRM LI (MAFF)
Kim Nong	CBNRM LI (Ministry of Environment)

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UNDERSTANDING THE FACTORS THAT SUPPORT OR INHIBIT LIVELIHOOD DIVERSIFICATION IN COASTAL CAMBODIA

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2. ABBREVIATIONS USED IN THE TEXT

AAIEP	Advisory Assistance to Industry for Export Promotion
ADB	Asian Development Bank
ARDB	Aquatic Resources Dependency and Benefits
CARERE	Cambodian Rehabilitation and Resettlement Programme
CBNRM LI	Community Based Natural Resource Management Learning Institute
CCRF	Code of Conduct for Responsible Fisheries
CDC	Council for the Development of Cambodia
CDRI	Cambodian Development Research Institute
CFDO	Community Fisheries Development Office
CPHFLP	Cambodia Post-Harvest Fisheries Livelihoods Project
CPHFO	Cambodia Post-Harvest Overview
CSES	Cambodia Socio-Economic Survey
CZM	Coastal Zone Management
DFID	Department For International Development (UK Government)
DoF	Department of Fisheries
EMT	Ennatien Moulthan Tchonnebat
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
GDP	Gross Domestic Product
IFAD	International Fund for Agricultural Development
LEDCON	Livelihood Enhancement and Diversification Consultative Group
MPDF	Mekong Private Sector Development Facility
NGO	Non-Governmental Organisation
NPRS	National Poverty Reduction Strategy
NREM	Natural Resource and Environmental Management
NRI	Natural Resources Institute
PHFRP	Post-Harvest Fisheries Research Programme (DFID)
PMCR	Participatory Management Coastal Resources
RGC	Royal Government of Cambodia
SHG	Self-Help Group
SLA	Sustainable Livelihoods Approach
SME	Small and Medium Size Enterprise
UK	United Kingdom
UNDP	United Nations Development Program
US	United States

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SUMMARY

4.1 BACKGROUND TO RURAL LIVELIHOOD CHANGE

Economic diversification within national economies, away from a high dependence on the extraction of natural resources, is seen by many development specialists as both a path leading to greater economic growth and an indicator of it. Most economies in the world have gone through stages of evolution which tend to start in a predominantly natural resource extracting phase and gradually move to agriculture followed, or paralleled by, the development of manufacturing and service sectors. Diversification of economic activities at the household and community levels is seen as an important part of this process. In terms of poverty reduction, diversification is seen both as: a) a coping strategy of the poor to deal with increasing uncertainty in rural areas, as a result of the degradation of natural resources, increasing competition and the encroachment of global influences, and b) as a development strategy for enabling the poor to graduate out of poverty. More and more the rural sector strategies of governments in developing countries are focussing on the role of livelihood diversification as a mechanism to achieve these two aims. In addition those government and NGO agencies concerned with the conservation of natural resources see livelihood diversification as a mechanism to encourage people to move away from the harmful exploitation and degradation of those resources.

4.2 EFFORTS TO ADDRESS THE ISSUE

However, the majority of the efforts to support livelihood diversification so far have tended to be supply-driven and focussed on single-issue solutions. Services are offered to rural communities to address perceived short-falls in credit, business development services, technical skills, market knowledge etc. without really understanding the underlying causes of the lack of livelihood diversification. A consequence is that rural sector development efforts tend to be well supplied with development initiatives but without the corresponding level of livelihood improvement.

This is not to say that research has not been carried out into this area of development. On the contrary, there is a wide field of recent research that looks at the drivers and inhibitors of livelihood change in specific situations (see reviews such as Haggblade *et al.*, 2002) and this has provided a breadth of examples of how specific factors operate in those situations. Some researchers have gone a stage further and developed frameworks for addressing the issues surrounding specific groups of people such as herders (Little *et al.* 2001) or of developing guidance on broader policy options for intervention in rural sector change (see Lanjouw, 1999).

However, the tendency for intervention continues to be towards selecting livelihood alternatives from a menu of possible options and providing a limited array of services to facilitate uptake (Campbell *et al.* in press). Often the need for livelihood diversification is identified by a line agency or single-issue NGO that does not have the skills, remit or resources to go into what it may perceive as an area outside of its area of responsibility. As a consequence the need to respond to, and support, the demand for livelihood diversification often falls between agencies and is poorly addressed (Haggblade *et al.*, 2002). Single-issue efforts to address livelihood diversification have often resulted in the implementing agency realising the complexity of what is involved and progressively expanding their support portfolio to address a wider diversity of the complex issues facing livelihood change in the poor (this was expressed by some field practitioners at the first LEDCON group held under this project).

4.3 THE CAMBODIA SITUATION

In the Cambodian situation rural poverty is very high and the rate of rural growth is low, and mainly based on primary production (such as fisheries, forestry, wildlife, salt production and

agriculture). Increasing population pressure, changes in harvesting technology, and expanding and changing demand from markets are leading to increased and unsustainable pressure on natural resources which will ultimately lead to a decline in the livelihood outcomes of those people who depend upon those resources. This is not helped by a policy environment, aimed at the development and management of the primary sectors, where there is little policy harmonisation across sectors. As a consequence changes in one sector often adversely affect others (for example increases in agricultural inputs, such as pesticides and fertilisers, can have direct adverse effects on fisheries).

Natural resources and environmental management (NREM) and participatory community development are seen, in the long-term, as a key twin track approach to rural development in Cambodia. The government and donor community are supporting the decentralisation of these two roles to commune councils. However, the central government programme for natural resources management has been slower than expected to address these issues and the potential of commune councils to tackle this task successfully in the medium-term would seem to face many obstacles. Not least of these is that there is very little understanding of the factors that have, in the past, supported or inhibited livelihood change.

4.4 THE RESEARCH PROJECT

The DFID funded *Aquatic Resource Dependency and Benefit Flows Project* (ARDB) was a short research project (from January 2005 until August 2005) implemented by IMM of the UK, the Community Fisheries Development Office (CFDO) of the Department of Fisheries (DoF) and the Community Based Natural Resource Management Learning Institute (CBNRM LI), both based in Cambodia. It had two aims: 1) to build capacity amongst government and NGO staff in understanding the importance of livelihood diversification as a potential tool for natural resource management, and 2) to further our understanding of how factors that support or inhibit rural household diversification may apply in the Cambodian coastal context and beyond. The current report reviews the background to, and the findings of, that research. The research involved four distinct phases of research:

- 1) A review of project literature from around the world to identify which factors may be important in allowing or constraining people's efforts to change their livelihoods. In particular it looked at people's attempts to move away from dependence on primary production to a greater level of engagement with secondary and tertiary industries.
- 2) A brief review of the historic evolution and current position of livelihood diversification in rural Cambodia.
- 3) The identification of a selection of examples of efforts to facilitate livelihood change in Cambodia through interaction with ongoing projects supporting livelihood change and from research literature and policy documents specifically related to the Cambodian experience. This was facilitated through the formation of an informal group called the Livelihoods Enhancement and Diversification Consultative (LEDCON) Group made up of project staff, government officials, NGO workers and commune representatives.
- 4) Field research carried out in five communes in the coast of Cambodia. A draft framework of influencing factors was developed using secondary sources of global and Cambodian experiences and this was then tested and refined in the field.

Whilst the report presents an understanding of livelihood diversification in its broadest sense it also focuses more specifically on the livelihoods of poor people in the coast and how dependence on aquatic resources affects livelihood change.

A key outcome of the research was the raising of awareness of the research team in the importance of livelihood diversification and its potential and actual role in natural resource and environmental management. The research team was made up of people from headquarter

and the provincial levels. They were initially trained by IMM in Sustainable Livelihood Approaches (SLA) and a range of field-based participatory tools. A research method was developed by IMM and the team and the research team implemented the field research. The data from the field was jointly analysed and consolidated into a series of key findings and options for moving forward. The field data has been combined with the global and Cambodian literature to create the current document which is a framework for understanding the factors affecting livelihood change of poor people in the coast.

4.5 THE FINDINGS OF THE FIELD RESEARCH

The findings of the field research broadly characterise the dependency of aquatic resources users and define the factors which have allowed or constrained livelihood diversification in the communities which were studied. These findings were validated with both commune-level representatives and provincial-level representatives. The results of the analysis of the data from the field were then further validated through a meeting of the LEDCON Group in Phnom Penh. The key points are summarised below:

1. The dependence of some coastal people on coastal aquatic resources is very high and this largely relates to the opportunities offered by the diversity of ecosystems and species that provide people a wide range of opportunities to suit their changing needs under differing financial, seasonal and environmental conditions.
2. For most aquatic resource users studied, dependence on aquatic resources is based on the benefits that it generates, not deep rooted cultural factors. Where viable alternatives offer better or equivalent benefits, people will generally take them up.
3. For households in coastal areas, livelihood diversification seems to be an essential part of livelihood strategies.
4. Where they have the capacity, households actively seek to integrate related but diversified activities.
5. Household livelihood strategies, and the ways in which they change, are often closely linked to the household social resources – the networks of family, friends, neighbours, employers and patrons – that surround them.
6. Geographical mobility is also important part of the livelihood strategies of at least some people on the coast.
7. Location, especially the proximity to markets, plays an important part in determining how people seek to diversify.
8. The diversity and outcomes of household livelihood strategies are often linked to the age of household members and the size of the household.
9. Gender has a strong influence on how individuals contribute to household livelihoods.
10. Poorer groups are active in seeking out the skills and knowledge they require in order to diversify, enhance or change their livelihood activities. Usually they acquire these from parents, family, friends, neighbours or employers.
11. Health is a major factor in determining livelihood strategies and outcomes, with households that have suffered as a result of disease or disability constituting an important part of the poorest groups.
12. Households use a range of sources to access the financial resources they need for livelihood diversification. Formal credit access is limited by collateral requirements but many sources of finance seem to be available through the informal sector and social networks.
13. Awareness of local markets and the role they play in the viability and sustainability of

new livelihood activities seems to be relatively good although there are some cases of too many people becoming involved in new activities creating competition and even conflict.

14. The ability or need to diversify is rarely dependent on a single “push” or “pull” factor. Rather it is a combination of factors that link together to make change possible, desirable or necessary.
15. Government policies and the way in which they are implemented do have important and widespread impacts on people livelihoods. In the coast, this has often been manifested through measures to protect and conserve coastal resources.
16. Development interventions that address the complexities of people’s livelihoods are essential and are likely to be more effective than single-issue interventions.

4.6 IMPLICATIONS FOR THE FUTURE

The global literature provides some broad strategic options for strategies to support livelihood diversification, these are supported by the current research but this research highlights the importance of adapting such options to local conditions. In general participants of the LEDCON group, who are actively involved in rural development work, indicated that the findings would apply equally to the inland as well as the coastal communities, again with some refinement.

These key findings suggest important considerations that should inform and influence strategies that government and NGOs might wish to adopt in the development of rural livelihood change. The key considerations for moving forwards are as follows:

1. Because livelihood diversification is already an important part of the livelihoods of many aquatic resource users, support for livelihood change could play an important role in reducing dependence on aquatic resources and improving aquatic resource management, where diversification moves people away from dependence on aquatic resources. The agencies concerned with NREM need to start to take livelihood diversification much more seriously as a mainstream strategy for NREM in Cambodia.
2. Livelihoods and the factors that affect them in coastal areas are complex. Interventions need to understand that complexity and how it evolved. They also need to build on the strengths of existing livelihoods, especially the social resources which play such an important role in these communities.
3. Being close to foreign markets (particularly Thailand & Vietnam) creates opportunities for livelihood diversification and change which are not always available elsewhere in Cambodia. Greater emphasis on better linkages with regional markets is likely to provide new opportunities in the future.
4. Better linkages and information flows between coastal communities and national markets would also increase local people’s choices regarding their livelihoods. It could also increase their share of benefits. Given the importance of their role, it will be necessary to involve middlemen in this process.
5. Given the cost and frequency of ill health in the communities studied, improved access to effective, low-cost health care facilities and services would play a major role in helping households to improve their livelihoods, especially for the poor.
6. In the short to medium-term, relevant, vocational skills and knowledge seems to be a priority for livelihood improvement, especially for the poor. However, improved access to appropriately costed formal education is also necessary in the medium to

long term.

7. Standardisation of credit mechanisms is unlikely to address the needs of many stakeholder groups. The development and widespread availability of appropriate credit mechanisms that are suited to the needs and capacities of different stakeholder groups are critical for improving the outcomes and the speed of livelihood change.
8. Formal title over land is very important for people to diversify their livelihoods and to access credit (especially for larger loans) to take up different livelihood opportunities.
9. The livelihoods of different households and different stakeholder groups in coastal communities are often very closely interlinked and interdependent. Interventions for rural livelihood improvement should be aware of this connectivity and avoid creating greater polarity in communities. When selecting partners it will be important to consider working both with:
 - a. groups who already have the capacity to change and who can stimulate growth in the local economy; **and**
 - b. poorer groups who need more support to help them take advantage of new opportunities and who otherwise may be marginalized by the development process.
10. Government policies have complex effects at the local level. There is a need to be much more proactive about understanding the impacts of policy decisions and feeding this understanding back into the policy process.
11. To understand and respond to the complexity of the livelihoods of the rural poor, interventions should use:
 - a. multi-agency approaches which bring together a diversity of skills, knowledge and experience;
 - b. formal and informal networks, that are flexible and needs driven, to bring these together rather than establishing new formal agencies.

4. THE ARDB PROJECT

5.1 AIMS AND APPROACH

The research had two aims: 1) to build capacity amongst government and NGO staff in understanding the importance of livelihood diversification as a potential tool for natural resource management, and 2) to further our understanding of how factors that support or inhibit rural household diversification may apply in the Cambodian coastal context and beyond. The research was carried out as a partnership between IMM Ltd of the UK, the Community Fisheries Development Office (CFDO) of the Department of Fisheries and the Community Based Natural Resource Management Learning Institute (CBNRM LI)

Gordon (1999) identifies three possible strategies for country-level work to inform livelihood diversification: 1) learning from in-country experience and piloting strategies based on the lessons learned; 2) learning from doing, i.e. implementing and monitoring pilot strategies based on what is currently known; and 3) undertaking further research. The ARDB was essentially participatory research that learnt from in-country experience and knowledge.

5.2 METHODS USED

The methods used in the study can be considered to be in three parts: 1) Global literature review; 2) review of experience in wider Cambodia; and 3) field research. The bulk of the work revolved around the last of these three and this element can again be considered to be made of three sub-components: 1) development of field methods; 2) training in field methods; and 3) implementation of field work and analysis of the findings.

Development of field methods

The approach employed for the ARDB research was based on methods developed and used in research conducted in India between 1999 and 2003 as part of the Sustainable Coastal Livelihoods Project funded by DFID's Policy Research Programme. Modifications were introduced to the approach used for this research taking into account the capacities of counterparts in Cambodia and the limited past experience of the group in research of this type.

This encouraged the research team to place particular emphasis on the capacity-building opportunities provided by the research. It was decided to devote a significant proportion of the time and resources available for conducting the research, and particularly the resources available for foreign technical assistance, to the training and preparation of the research team. This training and preparation was designed to maximise opportunities for local counterparts to become involved in designing the research and identifying methods appropriate to the Cambodian context.

Key features of the approach and field methods are:

- The development of the research approach and methods in close collaboration with the research team. This enables full use to be made of the knowledge and experience of local researchers, even when their specific experience in conducting research may be limited. This was particularly important in Cambodia as few of those involved in the ARDB research had substantial experience in research activities. By involving all the field staff and their supervisors in the development and design of the research from the start, the effectiveness of the capacity-building element in this research activity was maximised.
- In the preparation of research teams, placing emphasis on the understanding of the researchers of the principles and notions behind the research (as opposed to asking them to simply "collect data"). While this process demands considerable time and resources at the beginning of the research, it clearly ensures that the quality of learning is enhanced and the research process helps to build local capacity

permanently.

- The engagement of actors at different levels – in Cambodia, this meant at the Provincial level and at the Commune level – in the research process in order to ensure their understanding of the research, enlist their support in identifying appropriate research sites and respondents, and to involve them in commenting on and validating research findings in the field.
- The application of qualitative research methods, making use of participatory field research methods, across a sample of households selected using simple but systematic sampling techniques where community members can understand the key criteria being used for sampling and assist the team in rapidly choosing households. This approach has generally proved to be effective in helping the team to identify a range of households with different characteristics for their interviews in a way that purely random sampling would not necessarily ensure.
- The involvement of the entire research team in an analysis workshop where the information collected was analysed by all researchers and key findings identified and verified.

The research approach and methods were only finalised **after** the training sessions with the research team where the approach was discussed and reviewed with the researchers themselves and adjustments made to take account of their experience, capacities and skills and the effective time and resources available for the work in the field.

The overall extent and coverage of the research was established during the initial planning phase taking into account the time allocated for the research activities, the personnel available from the various institutions involved and the logistical conditions in coastal areas in Cambodia. The initial objective set was to conduct the research in 5 different communes in coastal areas of Cambodia, with a target of approximately 25 household-level interviews conducted in each of these communes. One of these communes was to be covered during the initial pilot activity which would be conducted as an integral part of the training of the research team.

The final research approach consisted of the following key steps.

Provincial-level meeting

This meeting represented the first step in the research process in each province and was convened with the assistance of the Provincial Fisheries Office in each of the two provinces concerned. A range of potential key informants were invited to this meeting including:

- Representatives from Government technical departments, such as Fisheries, Agriculture, Forestry;
- Representatives from Government coordinating agencies and programmes, such as SEILA;
- Representatives from projects and NGOs active in the Province.

The provincial-level meeting had three key objectives:

- To develop an understanding of the historical, social, cultural and economic conditions in the Province;
- To identify key processes and trends in the Province that might affect livelihood diversification and change in the research areas;
- To make a preliminary analysis of coastal communes in the Province with a view to identifying potential communes for more detailed research.

A key activity during the Provincial level meeting in each of the two provinces where the

research was conducted was the development of a matrix showing:

- Communes either located on the coast or where aquatic resource users were known to live;
- Key livelihood activities known to be undertaken by people living in these different communes;
- The ethnic make-up of these communes;
- The residency status (i.e. whether residents in each commune are long-term residents or recent migrants);
- The relative level of dependency of people in the commune on aquatic resources;
- The relative level of market access of people in the commune.

The selection of 5 communes for more detailed study was made based on the information in these matrices. The selection was purposive, the intention being to select 5 communes with different levels of market access and different levels of dependence on aquatic resources. These two principal criteria were used as indicators of the levels of diversification or opportunities for diversification within fisheries or out of fisheries. Thus, high levels of dependence on aquatic resources combined with good market access might indicate high opportunities for diversification within fisheries, compared to low aquatic resource dependency and good market access, which might indicate high opportunities for diversification out of fisheries. Low opportunities for diversification might be indicated by poor market access.

Prior to actually starting the field work, it was clearly impossible to verify the basis on which the selection of the communes has been made and the research team had to accept the judgement regarding the relative levels of dependency on aquatic resources and the relative level of market access given by provincial level respondents.

In the event, these judgements did not always prove to be completely appropriate. However, the table below reviews the 5 communes where the research was conducted and the brief the focus of subsequent research.

Table 1 : Key characteristics of communes studied during ARDB research			
Communes selected for ARDB research	Province	Relative level of dependence on aquatic resources (+ - +++)	Relative access to markets / urban centres (+ - +++)
Kampong Samreung	Kampot	+	+++
Koh Touch	Kampot	+++	++
Svey Toung Khang Tbong	Kampot	+	+
Chrouy Pros	Koh Kong	+++	+++
Peam Krasoap	Koh Kong	+++	++

(Ranking: + low dependence/poor market access; ++ medium dependence/market access; +++ high dependence/good market access)

Kampong Samreung Commune, Kampot Province

Kampong Samreung had been indicated to the research team as a community with a relatively low level of dependence on aquatic resources. This proved to be largely appropriate for the bulk of the community although there was also a sizeable Cham village within the commune where the level of aquatic resource dependence was considerably higher.

The commune is located very close (about 7 kilometres) to Kampot town and was originally selected with a view to conducting the research in a community that had particularly good access to markets. However, despite this vicinity, once the research activity started it became clear that the commune's access to markets in the town was more limited than was originally expected even though road access to the centre of the commune was quite good. Some parts of the community had considerably poorer access to the town than others.

In terms of livelihood diversification, the commune is interesting as it showed a considerable diversity of livelihood activities, with many people working outside the commune in Kampot or other areas, and a range of activities going on including fishing and fisheries-related activities, different forms of farming, salt production and service-provision.

Koh Touch Commune, Kampot Province

Koh Touch is located about 18 kilometres from Kampot town and is relatively easily accessible to it, as it is located on the main highway. The level of dependency on aquatic resources is much higher than in Kampong Samreung and it was notable that the diversity of livelihood activities generally rotated around fishing in some way or another. A key "innovation" in the area has been the introduction of seaweed farming, under the auspices of a Malaysian company, which has provided an important set of attractive alternative livelihood activities for local people.

Market access is relatively good although clearly the time, and cost, required to get to Kampot town is higher than in Kampong Samreung.

Svey Toung Khang Tbong Commune, Kampot Province

Svey Toung Khang Tbong was selected as an example of a remoter commune with poorer access to markets. Originally the research team had sought to identify at least one commune that was relatively remote and with a high level of dependency on aquatic resources, however it was perhaps significant that communities with these characteristics proved hard to find both in Kampot and in Koh Kong Provinces. This may be indicative of the fact that the production of fish tends to "attract" markets and lead to improved access. Even in remote island communities along the coast of Cambodia, it was said that access to markets is often quite good as market actors create links in order to ensure access to fish production.

Svey Toung Khang Tbong was at the other extreme – a remote, and very traditional community located close to the Vietnamese border (and therefore with some market access to Vietnam) but still generally remote from markets. While there was fishing activity in the community it was limited to fishing for mangrove crab and was not a major source of livelihood for the community.

Chrouy Pros , Koh Kong Province

Chrouy Pros was originally selected with the expectation that it would have medium market access. However, because of its location close to the Thai border, it proved to have probably the best market access of any of the communities looked at during the ARDB research. Linkages across the border in the community were particularly active, not only for sale of goods and products but also for education and institutional linkages. Some people in the community possessed Thai identity cards. In Koh Kong coastal communities, the level of dependency on aquatic resources was found to be very high.

Peam Krasoap, Koh Kong Province

Peam Krasoap is located close to Koh Kong town but access is still constrained by limited infrastructure, although this is currently being improved and market access was generally good. The situation of Peam Krasoap is unusual as the principle village in the commune was originally a village built over water entirely dependent on aquatic resources. However, following the institution of a protected area around the location of the village, the local

authorities persuaded the community to shift to a new location on land and the community was provided with various forms of support to encourage the move.

As a result, while dependence on aquatic resources is still high, it has diminished compared to the previous situation and seems to be diminishing even more now as local people are encouraged to find alternatives.

Commune-level meetings

In each of the communes selected following the provincial-level meetings, a meeting was organised with the commune authorities, village heads, village elders and other potential key informants, including leaders of women's and youth groups or organisations.

These commune level meetings were held in order to:

- To develop an overall picture of the historical, social, cultural and economic conditions in the commune;
- To identify key processes and trends in the commune that might affect livelihood diversification and change in the research areas;
- To make a preliminary analysis of livelihoods in the commune and identify household with different livelihood characteristics with a view to identifying households for more detailed household-level interviews.

These commune-level meetings started with a general discussion of the background of the commune, key processes and historical events, and the range of different livelihood activities engaged in by local people. A map of the commune noting key resources and the location of different activities and population groups was developed and, based on this, a series of transect walks were conducted by team members together with local people. These walks served to verify information from the preceding meeting and complete the picture of different livelihood resources and activities in the commune. A second commune meeting was then organised with the commune and village heads during which a matrix for analysing livelihood strategies in the commune was used to establish:

- The range of different household livelihood strategies used by different households in the commune;
- The approximate number of households involved in different strategies;
- Any particular characteristics of the households involved in different household livelihood strategies, in terms of age of household members, the size of households or their ethnicity;
- The relative level of dependency on aquatic resources of a particular livelihood strategy;
- The relative poverty level of households involved in different livelihood strategies.

No attempt was made to impose pre-determined or standardised definitions of "dependence" or "poverty". Rather, in each commune, a common understanding of these terms was arrived at through discussion, comparison and examples. Classifications that were eventually used tended to be somewhat different from one commune to another, but they nevertheless proved useful in helping the team to identify a range of households with different characteristics in terms of their livelihood strategies, the diversity of those strategies, their levels of dependence on aquatic resources and their relative levels of poverty. Based on this analysis the team, working with commune and village heads, sorted households in the commune into categories according to their dependence on aquatic resources and their relative poverty. Households to be interviewed in more detail were then chosen at random from within these categories, aiming to spread the household sample across the different levels of poverty and aquatic resource dependency. This sampling process did not aim to achieve better

“representativeness” as the numbers being sampled were generally too small in any case. However, this process did ensure that the range of different household strategy types, the different levels of dependence on aquatic resources and different levels of poverty were covered reasonably thoroughly and that the possible influences of any of these factors on livelihood diversification could be observed.

Household level interviews

Based on the household selection made during the commune-level meetings, the research team then developed a programme of household interviews, aiming to cover approximately 25 households in each commune. A checklist of key issues was used by each two-person team with suggested methods for addressing each set of issues. The focus of these interviews was:

- a detailed analysis of household livelihood activities according to the household members involved;
- an analysis of factors affecting choices regarding livelihood activities both in the past and at present.

Training in field methods

The training of the research team was undertaken in two distinct phases.

1. An initial 7-day training session, conducted in Kampot Town from 9th- 17th March, 2005. This training involved both the field researchers and their supervisors from CFDO, Learning Institute and the Ministry of Environment and focussed on introducing the research team to the Sustainable Livelihoods Approach, applying that approach to livelihood diversification and change in coastal areas in Cambodia and identifying and practicing appropriate field methods for researching this in more detail.
2. A second 9-day training session and pilot activity, also conducted in Kampot Town, from 30th March – 8th April where the field researchers were guided through a pilot research activity in Kampot Province, including the process of provincial level consultations, the selection of communes for the research, commune-level consultations, the review of commune-level information, the selection of households within communes for household-level interviews, and the recording and initial analysis of information. During this second training session, the community selected for the pilot activity was Kampong Samreung Commune located some 7 kilometres from Kampot town.

Implementation and analysis of the field work

At the end of the second training session, a detailed schedule for conducting the field work was developed taking into account the time and staff available. This programme of field research was conducted from 4th – 27th May, 2005 in Kampot Province, and from 6th June – 1st July, 2005 for Koh Kong Province. Altogether 3 communes from Kampot Province and 2 communes from Koh Kong were covered (Table 1).

Preliminary analysis was carried out by the field research team. Data sets developed by them were then brought to a one-week analysis workshop involving the full research team where findings from different communes were analysed and compared and some key findings developed. These were presented to a national-level peer group for validation and discussion at a LEDCON meeting on 5th August, 2005 so that comments from this group could be incorporated into the current report on the research.

2.5 VALIDITY AND GENERALISABILITY OF THE RESULTS

If the findings of the research are to have any value beyond their immediate context we must be sure that the work demonstrates internal validity, generalisability, replicability and

objectivity. These are discussed below.

Validity

The validity of the work is an indication of how accurately we feel that the results from the work reflect the real situation.

An integral part of the process undertaken in each province was a validation meeting involving commune and provincial authorities where the key findings generated by the team in each province were reviewed and discussed. Participants in these meetings were encouraged to discuss the extent to which the findings of the team contradicted their experience and knowledge and the extent to which it might reflect the peculiar conditions in the specific communes studied.

This process provided a means of checking the team's findings and generally indicated that these findings were valid.

Generalisability

Generalisability reflects the extent to which we feel that the results of the research can indicate what is happening in locations not specifically covered by the research team. This includes other communities in coastal areas of Cambodia as well as communities dependent on other aquatic resource systems in the country or those dependent on other natural resource systems.

One finding of the research is that it may be difficult to generalise regarding existing conditions from one community to another along the coast in Cambodia as local circumstances often play a very significant role in determining people's opportunities to diversify or change their livelihoods. Proximity to cross-border trading opportunities, local-level policies and initiatives to make land available to new migrants, specific initiatives by entrepreneurs – whether local or from abroad – were all seen to have had significant impacts on particular communities or areas.

Also given the small number of communes and households studied in the research extrapolation of the results without more comprehensive study should be done with caution.

However, while local conditions clearly vary, many of the underlying themes that emerge from the research seem to be relevant across all the sites studied and can reasonably be expected to be relevant elsewhere as well. This is to an extent supported by the secondary data from the literature and from comments made by field-level workers at the LEDCON meetings.

Replicability

The extent to which the results obtained would be replicated by a similar research project in the same location indicates the level of replicability of the research. In other words if the research were repeated by another group of researchers would they generate the same results.

Given the participatory and qualitative methods used for this research, it is extremely difficult to guarantee replicability at a detailed level in terms of the results that might be achieved by other researchers looking at the same issues. This is particularly so given that, for several members of the research team, this was their first involvement in any kind of research activity and they were dealing with sets of issues and concerns that were entirely new for them. Even with more experienced field researchers, it might be difficult to ensure detailed replicability in findings when looking at the complex issues surrounding livelihood diversification.

However, the fact that the findings seem to be largely supported by those of the global and national literature review, as well as experiences of development practitioners in Cambodia (elicited through the LEDCON Group) would seem to indicate some level of replicability. It should be born in mind that, while the international members of the team involved in training

the local researchers may have been aware of these findings, the local team were not generally familiar with the content of the literature review and so would have been largely unaffected by any of the issues it raised.

Objectivity

The objectivity of the research gives an indication of how much the findings reflect the views of the poor in the coast of Cambodia and how much they reflect the biases of the researchers.

Particularly where participatory and qualitative methods are being used, maintaining objectivity in the research can be difficult. Where researchers have previous experience in looking at the issues being considered (as was the case of the international research team) there is a real risk that researchers are being conditioned by their past experience and their expectations regarding what they will find in the field.

To some extent, the relative lack of experience among the field researchers may have helped to balance the possible biases and preconceptions among some of the more experienced research team members. This was illustrated during the analysis workshop where some of the initial “categories” developed by the international researchers to identify different forms of livelihood diversification and change were adjusted very significantly based on the experience of the field researchers who felt that these categories did not reflect what they had encountered in the field in Cambodia.

5. FACTORS AFFECTING CHANGE: TOWARDS AN ANALYTICAL FRAMEWORK

6.1 THE FOUNDATIONS OF THE ANALYTICAL FRAMEWORK

There is a variety of factors that affect the ability or willingness of people to change their livelihoods. Ellis (2000) describes the complexity of those livelihoods and discusses many of the factors that influence change. Ellis' discussion is based around a framework derived from the Sustainable Livelihoods (SL) Framework as described by Carney (1998) and Scoones (1998). Gordon (1999) says that using a livelihood analysis to inform interventions provides the opportunity for greatest impact of the various entry points which governments have at their disposal. The SL framework and SL approach (SLA) have been used in the current ARDB research as part of a structured way of identifying which factors are important in allowing and supporting livelihood diversification.

Box 1: The Use of SLA by Development Agencies

The SLA has been in existence, and has been evolving, since the 1980s. It is used by a number of development agencies such as UNDP, IFAD, OXFAM and the UK Government's Department for International Development (DFID). It evolved from a wide array of participatory and other grassroots approaches to working with the rural poor and in many ways it is a bringing together of past methods into a consolidated approach that is both comprehensive and fairly easy to understand and use. Anybody who has been working with the rural poor for any length of time will recognise much of the approach as common sense and well tried and tested good practice of development work. What is new about the SLA is that it embraces the complexity of rural livelihoods from the perspective of the poor. It places the poor as the centre of the development process because they are the ones most in need of support. It also tries to combine the good practice of development work into a coherent approach with a set of associated principles.

The analytical framework of factors has been developed from three main sources:

- Research papers from across the world focussed on understanding the factors that affect livelihood diversification across many economic sectors in different countries.
- Work that has been implemented in a range of sectors and geographical areas within Cambodia which can indicate the importance of different factors.
- Empirical research in the coast on aquatic resource dependency.

The ARDB research aims to bring these three sources together. Firstly, global and Cambodian secondary information on factors affecting livelihood change was combined within the SL framework to produce an analytical framework. This was then used to guide the collection and analysis of information from coastal communities in Cambodia.

6.2 THE COMPOSITION OF THE ANALYTICAL FRAMEWORK

The SL framework provides a useful and simple way of representing the complexity of people's lives and can be adapted for understanding the factors that affect the way in which the coastal poor can diversify their livelihoods. The SL framework has been used to identify the key resources (human, social, natural, financial and physical) which people use to access other resources and activities and develop and carry out their livelihood strategies. The SL framework also helps researchers to identify the key influences that affect the access that people have to those resources. Rural people can affect many of these influences, in the sense that they have some interaction with them and can, in turn, modify their effects. Such influences include the norms, beliefs, sanctions, support and patronage of wider society; the markets, services and finances of the private sector; the services, support and voice provided by civil society organisations; and the policies, plans, services, enforcement and judicial

systems of government.

Other influences may be beyond the ability of rural people to affect or change, these factors include the wider trends that face the rural poor such as population growth and globalisation; the seasonality of production, health, employment and markets; and the catastrophic effects of drought, flood, illness and war. “Livelihoods” are the ways people combine the resources at their disposal to create activities that will enable them to realise their capabilities and make a living. A “sustainable” livelihood is one that can be carried on now and in the future without depleting the resources it depends on and without depriving other people of a livelihood. It can also be carried on in spite of shocks or changes like natural disasters or seasonal cycles. This results in a livelihood strategy that, in turn, is affected by both past strategies and future aspirations. The implementation of the strategy leads to livelihood outcomes that feed back into the access that the different stakeholders have to the resources available to them and the way in which people interact and affect the factors which influence their lives. The SLA is a way of understanding the lives of the poor, their strengths and vulnerabilities and helps set the objectives of development so that those objectives respond effectively to the reality of poor people’s lives.

The SLA Framework is used here to categorize and describe the factors which interact with the livelihoods of coastal people. The framework helps us analyse how different factors may help in providing choice, or opportunities for people to take up new activities, or how different factors may act to force livelihood change, or constrain change from taking place. The different factors are analysed according to the framework under the following headings:

- Resource-related factor:
 - Factors relating to human resources
 - Factors relating to social resources
 - Factors relating to natural resources
 - Factors relating to financial resources
 - Factors relating to physical resources
- Influencing factors that people can, to an extent, affect:
 - Factors relating to wider society
 - Factors relating to government
 - Factors relating to the private sector
 - Factors relating to civil society
- Influencing factors that people cannot generally affect:
 - Factors relating to trends
 - Factors relating to seasonality
 - Factors relating to shocks

These are discussed in the wider global, and the more local Cambodian, contexts in the Livelihoods Enhancement and Diversification Framework for Cambodia in Section 10 below.

6. DEFINITIONS USED

The topic of livelihood diversification is abundant with confusing terms. Some of these are explained here to increase clarity for the rest of the paper.

Livelihoods: A livelihood is defined as comprising the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (DFID, 1999). Livelihood diversification refers to the ways in which individuals and households change their ways of earning an income and surviving.

Livelihood outcomes: These are the achievements or outcomes of livelihoods strategies such as income levels, well-being, levels of vulnerability, food security, access to natural resources (DFID, 1999)

Sustainable Livelihood Approaches (SLA): SLA is a method of understanding and responding to the complexity of people's lives. It is discussed in more detail in section 6 above.

Livelihood diversification: Ellis (1997) defines livelihood diversification as 'the process by which rural families construct a diverse portfolio of activities and social support capabilities in their struggle for survival and in order to improve their standards of living' Ellis (1997, p5). The way in which different households undertake livelihood diversification is interpreted in different ways. For some, diversification is understood in terms of the extent to which a household's portfolio of activities incorporates non-farm (see below for definition) activities, or those activities not dependent on natural resources. For others diversification is understood in terms of the extent to which a household's portfolio of activities incorporates secondary and tertiary activities (see below for definition), which does not necessarily indicate a movement away from natural resource dependency (e.g. a household's activity portfolio may include fishing, fish processing and fish trade).

Livelihood intensification: This occurs when those involved in the livelihood activity increase the level of skill, knowledge, labour, investment or technology which they invest into that livelihood strategy. For example agricultural intensification may involve investment in irrigation systems or the application of greater quantities of fertiliser on the land.

Livelihood specialisation: This is in many ways the opposite to diversification. People often find that, as they become better at a particular livelihood activity, they are able to achieve better livelihood outcomes. In response to this they increase their focus on this narrow group of activities and become specialists in them.

Primary, Secondary and tertiary industries: Primary industries are those that extract or grow products that have not been processed and are therefore in their natural state, specifically products of agriculture, forestry, fishing, and mining. Secondary industries include those where raw materials are transformed, or processed, into finished or partially finished goods e.g. milk is changed into cheese or fish is turned into fish paste. Tertiary industries are those concerned with service provision (e.g. credit provision, teaching, transport provision, health work, sex work) and administration.

Barrett and Readon (2000) divide rural livelihood strategies into primary, secondary and tertiary industries where the rural poor gain a livelihood through either waged employment or self employment, either through local or migratory activities. Their categorisation of livelihoods is shown in Table 2 below:

Table 2: Categories of livelihood types	Primary				Secondary		Tertiary	
	Agriculture		Mining/ other extractive industries		Manufacture		Services	
Waged employment	L	M	L	M	L	M	L	M
Self employment	L	M	L	M	L	M	L	M

L=local and M=migrant.

Barrett and Reardon (2000) go on to consider further subdivisions of the *primary*, *secondary* and *tertiary* categories described above. Firstly they question the ease with which researchers classify people into wage earners and self-employed and suggest much more of a continuum than these simplistic categories. Regarding local work they consider that this may be at home, local but away from home, and at a distance from home which may also be migratory. They further sub-divide these categories according to location (e.g. in town, in the same country, or abroad). They also note that households may be rural but much of their work may be carried out in the urban environment, this poses problems for how such livelihoods are categorised and is further confused by the wide array of definitions used for terms such as “rural” and “urban”.

Non-Farm: Terms such as ‘non-farm’ and ‘off-farm’ are often used to describe non-primary production activities and reflect the agricultural bias in the literature. Off-farm is a locational term which refers to where work takes place rather than what work it is (Barratt and Reardon, 2000) e.g. agricultural labour of someone else’s farm is often referred to as off-farm. These can be rather confusing terms.

Rural Non-Farm Economy: Hagblade *et al.* (2002) describe the rural non-farm economy (RNFE) as those rural economic activities outside of agriculture and including self-employment, wage employment, full-time, part-time, formal, informal, seasonal, and episodic non-farm production. Hagblade *et al.* (2002) include the primary production of an unprocessed plant and animal products including crops, aquaculture, livestock husbandry, woodlot production, hunting, fishing and forestry in the term “agriculture”. However, there is not a great deal of uniformity in these terms and some authors exclude fishing from agriculture and include it in non-farm activities.

Rural industrialization: This term is often used to describe the process where rural economies, which are predominantly *primary* in nature move towards a greater development of *secondary* and *tertiary* industries. Often associated with this is expansion of the rural economy rather than just a change of activities.

Push Factors: Push factors in the current study are understood to be those factors which operate within and outside the household that force households to change, often against the will of the people being affected. A change in legislation banning a particular type of fishing or from cutting trees may “push” people to change their livelihood activities.

Pull factors: Pull factors in the current study are understood to be those factors within and outside the household that provide opportunities, choices or support that allow households to change. The opening of a new factory might generate new opportunities that “pull” people out of their existing activities.

Constraints: Constraints in the current study are understood to be factors within and outside the household which inhibit or prevent households in their ability to take up their aspirations.

Vertical integration: Integration refers to the close linkages between different livelihood activities. Vertical integration refers to linkages between activities on the same sort of products that go from production through processing to trade. For example catching, processing and trading in fish would be vertically integrated activities.

7. LIVELIHOOD DIVERSIFICATION IN THE GLOBAL CONTEXT

Livelihood diversification is a common strategy amongst poor people even in relatively un-diversified economies (Gordon, 1999). Some would say it is the norm (Barrett and Reardon, 2000). This diversification can occur at several different levels: at the individual level (where a person has several livelihood activities, either simultaneously or in seasonal succession); at the household level (where different members of the household pursue different livelihood activities); at the community level (where different households pursue different activities across different sectors of the economy), and at the national level (where across the economy there is a diversification of activities). These do not operate in isolation from each other but may exist at the same time. People change their livelihood strategies for many reasons such as a scarcity of resources, risk avoidance, economies of scale, improved returns from change, or in response to a crisis. Barrett and Reardon (2000) note that there is often a gradual shift over time from household and individual diversification, to individual-level specialisation with household diversity, to household level sectoral specialisation with intra-sectoral diversification (e.g. men involved in specific skilled fishing activities with women involved in complex fish processing and trade activities). Specialisation through superior knowledge and/or technologies often allows greater inter-individual diversity within a household (Barrett and Reardon, 2000) because it allows individual livelihood strategies to diverge from each other.

Livelihood diversification is often one of several livelihood change strategies adopted by the rural poor depending on natural resources. These different strategies can be seen as points on a continuum and may overlap or take place simultaneously within a single household (Campbell *et al.* in press) as shown in figure 1 below.

Figure 1: Three broad approaches to changing livelihoods.



Others approaches include specialisation and intensification, and migration (Swift, 1998).

The *enhancement of existing strategies* includes doing what is currently done, but doing it better. This might involve more intensive agricultural production, specialisation in a particular area, changes in technology, increased investment, adopting more sustainable approaches, or obtaining clearer access rights over land and other natural resources.

Diversification of activities involves adopting several activities and combining these in a portfolio or group of diverse activities. Perhaps the most common form of this is at the household level where different members of the household will be involved in different areas of work, perhaps reflecting their different skills, experience, gender or age. Another common diversification strategy is in response to the seasonal or periodic availability of work. Agriculture and fisheries are often seasonal requiring different levels and types of labour inputs at different times of the year. For many people a fulltime job in any one of these industries is not an option and so they move between jobs as work becomes available. For example, dependence on coral reef resources is often seasonal and a response to a seasonal decline in shore-based agricultural work (Whittingham *et al.* 2003). In some situations the demand for labour will change over time and wages paid in different sectors at different times of the year may be the driving force for diversification. In others, diversification may be a risk reducing strategy where employment in any one sector is inherently risky. It should not be assumed that diversification means a reduction in dependency on natural resources, indeed household may diversify their portfolio of activities and in doing so become highly dependent

on aquatic resources in a diversity of ways.

In some cases people may opt to *adopt an alternative livelihood* altogether. By this we mean that they give up their existing activities and take up something entirely new, for example a woman may give up working around the house and start work in a textile factory. This seems from the literature to be a less common strategy of choice for the poor and more one of necessity, in part because it is often associated with high risk. However, increasing numbers of the rural poor are being forced to leave their traditional areas of employment and to move into wage labour as the principal source of income, often as a result of indebtedness and the need to sell livelihood dependent assets such as land and fishing craft.

Figure 1 shows these three strategies as a linked continuum. This is to demonstrate that whilst any one of these three broad strategies may be adopted by individuals, households or micro-enterprises; they can form a combined approach which may be adopted by a community, region or country. They can also be approached from either direction as implied by the two-way arrows.

Cross-cutting this continuum is the strategy of *geographical migration*. This might mean adopting or retaining any of the positions on the continuum but moving to a better location to do it. This is a common strategy amongst fishers who move to fish stocks in a new location because of a seasonal or more long-term decline in local availability of fish. This becomes particularly important where the viability of any form of livelihood change in the current location is unlikely to be sustained. As Hitchins *et al.* (2004) say “the painful reality is that in some areas in a ‘viability void’ the only realistic long run strategy for most people may be to move”.

The reasons for livelihood change are many and complex. However, they can be broadly grouped under two headings: *distress push*, and *demand pull*. Reardon and Barrett (2000) identify several key pull factors operating in the rural economy of Sub-Saharan Africa: 1) household diversification often increases with total household income allowing families to overcome barriers to entry into new livelihood activities; 2) as rural development expands it increases market access which stimulates a shift from traditional goods and services to satisfy local demand, to more modern goods to satisfy urban and export demand; and 3) long-term trends in infrastructure improvement, town growth, and increasing population density lead to development of the rural non-farm sector. Push factors tend to be related to declining productive resource availability, indebtedness, climatic changes, and market variability (Reardon and Barrett 2000).

8. BACKGROUND TO LIVELIHOOD DIVERSIFICATION IN CAMBODIA

9.1 THE IMPORTANCE OF LIVELIHOOD DIVERSIFICATION IN CAMBODIA

Cambodia is a country rich in natural resources that contribute both to wider national development and to the security of the households of the majority of people. These resources include forests, fish, water and land, and their use is interdependent and complex.

In spite of its rich natural resource base, 36% of the Cambodian population lives below the poverty line and more than 70% of the population and 79% of the poor are involved in agriculture and/or fisheries (RGC, 2003). Between 12% and 15% of the people dependent on agriculture have no land and access to other natural resources, such as fisheries and forestry, is constrained due to limited, inequitable or ineffective management of these resources. The population growth rate is around 2.5% and an additional 250,000 people join the workforce annually, mainly in rural areas. The majority of the rural population depend on the natural resource base for food and employment.

Poverty in Cambodia has largely resulted from high population growth, inadequate opportunities, low capabilities, insecurity, exclusion and vulnerability (RGC, 2003). These factors are conspiring to make the situation for many people progressively worse. The National Poverty Reduction Strategy (NPRS) (RGC, 2003 p.iv) states that “the central objective of the Royal Government’s policy is to promote broad-based sustainable economic growth with equity, with the private sector playing the leading role”. The natural resource base must play a major part in this strategy and increases in agricultural productivity through balanced intensification, diversification and regional specialization of agriculture do offer opportunities for improved livelihoods for many people. However, the actual expansion in agricultural employment in recent years has been low. In the period between 1998 and 2000 the average growth rate of agricultural employment was only 1.6%. With much of the agriculture having static productivity levels and land availability insufficient or too insecure to accommodate a rapidly increasing population, many people are turning to open access resources such as forests and fisheries, to make a living. These resources are now under considerable pressure and the crucial, if under-reported, role of aquatic resources in food security and rural incomes, is under threat.

Whilst there is considerable potential for improving the way forest and fishery resources are used - through more sustainable harvesting practices and better management - improved use of fisheries and forestry resources in the long-term must ultimately result in many people being excluded from their exploitation. This will be necessary if those who remain dependent on those resources are to have a chance at getting out of poverty (CFDO-IMM, 2004). This means creating support and opportunities for people to lessen dependency on primary resources either by: a) improving or enhancing the existing strategies which do not depend on natural resources, or which depend on natural resources in a more sustainable way b) providing new opportunities which allow diversification away from natural resource dependency, or c) provide new alternatives which completely refocus people’s livelihood activities.

Rural livelihood enhancement and diversification (through the development of secondary and tertiary employment opportunities) is recognised in the NPRS as an important strategy for the development of Cambodia. It is also central to the sustainable management and use of the natural resources which cannot continue to cater for the needs of the ever-expanding workforce. The World Bank Group (2004) notes that one of the main challenges of private sector development in Cambodia is to broaden the base of economic opportunity and jobs. Livelihood diversification is seen as a way of providing employment and income opportunities for many of the people who are unable to access land for agriculture or are excluded from participating in the exploitation of open access resources such as fisheries and forests. Where it has been successful, rural industrialization has proved to be a viable way out

of poverty. In Cambodia, households headed by those with industrial employment had a less than 4% poverty incidence compared with 80% for agriculture (World Bank Group, 2004).

9.2 HISTORIC DEVELOPMENT OF LIVELIHOOD DIVERSITY

Before moving on to see how diversification might be achieved, it is worth briefly exploring how livelihood diversification has changed through Cambodia's history.

Historically, Cambodia has exhibited a wide diversity of skills that are apparent in the archaeological sites of the country. These were needed, not only to produce the sophisticated architectural structures of the Angkor period, but also to maintain and operate a widespread administration and trading area. However, the indications are that these skills are likely to have been limited to key concentrations of power and authority, with the majority of people in Cambodia depending on rice and fishing as their main subsistence and income generating activities. This isolation, of the majority of rural people, from livelihood diversification opportunities was further increased by ethnic differentiation across employment areas. This lack of indigenous diversification into a wide array of commercial activities in the rural areas was further compounded by poor gem and precious metal deposits, poorly developed manufacturing, trade and commerce systems, and poor communications and internal markets which differentiated Cambodia from its neighbours and which could have stimulated a greater expansion of regional trade (Chandler, 1983).

Some diversification into secondary industries in the rural environment has, however, been apparent for centuries. Whilst catching and consuming fish has played a major role in the subsistence activities of the rural people of Cambodia since the beginning of recorded history, fish processing and trade also have a long history. Fish paste production has been traditionally practiced in Cambodia and the wider region for many years and Mabbett and Chandler (1996) note the existence of evidence for this practice in northeast Thailand 4,000 years ago and there is evidence for fish paste being used in regional trade. Agriculture and fisheries-based secondary and tertiary industries remain some of the most common forms of rural diversification in Cambodia.

However, it can be rather confusing to think of a lack of diversification of commercial activities as the same as a lack of diversification altogether. It is likely that in traditional Khmer villages there was a demand for a wide array of goods and services which were provided by the household themselves or were exchanged between households.

In the 19th century the distinction between urban and rural lives was still very pronounced and it is thought that there was little State patronage of art, culture and institutions of learning that might have provided a stimulus for livelihood diversification (Sarthi Acharya *et al.*, 2003a). There was, however, some agricultural diversification particularly into cotton growing and processing, especially in the Kompong Cham, Takeo and Prey Veng provinces (Sarthi Acharya *et al.*, 2003a).

In the late 1950s there was an expansion of secondary and tertiary industries in Cambodia with a growth of manufacturing of cars, motorbikes, soap, paper, chemicals and canned food (KOC, 1958 cited in Sarthi Acharya *et al.*, 2003b). In more recent times insecurity and political change in the country hampered development and rural diversification, especially during the period from the late 1960s to 1990. Since then there has been increasing security and stability within the country which has fostered foreign and domestic investment, facilitated skill development and allowed the growth in government and civil society support to rural communities. However, the past subsistence economy in which the majority of people were engaged has not encouraged the growth of sophisticated finance, market networks and transport systems that would allow the majority of the rural poor people to benefit from potential growth strategies. As the World Bank Group says "Cambodia's lack of a strong industrial tradition and the extent to which governance has either been externally influenced or unresponsive to the needs of domestic entrepreneurs has meant that Cambodia has not

benefited from a long history of experiences crystallizing themselves in laws, institutions, services, marketplaces, information channels, and the norms that form the basis enabling environment for the private sector” (2004, p.1).

9.3 CURRENT SITUATION

The World Bank Group says that the private sector in Cambodia is currently exceptionally-narrowly based (2004, p. v). Employment opportunities in secondary and tertiary sectors are still limited (only 8% and 18%, respectively and these are mainly urban-based). Average employment growth for the service sector was only 1.08%, while that in the industrial sector was a substantial 43.29% during 1998-2000 (mainly in the garment industry). In spite of such industrial growth, only 8.4% of the population has benefited (World Bank Group, 2004).

The data on the current situation of rural diversification is limited but the broad picture is one of a mainly agriculture-based rural population. These people are mainly involved in farming and fishing and associated with these activities are agro-industries (such as rice milling) and fish processing (fish paste, fish sauce, salted fish, smoked fish etc.).

Where livelihoods have diversified into secondary and tertiary non-farming/fishing industries they have tended to do so in urban areas such as Phnom Penh, tourist areas such as Siem Reap, and around ports and border crossings such as in Sihanoukville and Koh Kong. In the Mekong Plains region (where agricultural productivity is high) and the northeast of the country the level of diversification is very low (Sarathi Acharya *et al.*, 2003a). The west and northwest provinces show relatively higher diversification.

The major growth areas in secondary industries are in the garment industry which accounts for four-fifths of Cambodia's total official exports of US\$1.4 billion per year. Some 250,000 workers, mostly women, earn an average US\$45 a month from this industry. The garment industry has been largely dependent on foreign investment closely tied to Cambodia's ability to obtain a share of protected US and EU garment and textiles markets (World Bank Group, 2004), a situation which is rapidly changing since the Agreement on Textiles and Clothing came to an end at the end of 2004.

Other secondary and tertiary industries, such as construction, mining, hotels and restaurants, mechanics, rural electrification (through the use of battery power), retail, and transport have all been showing growth in recent years. Tourism-related growth has been good but is strongly influenced by both domestic and global issues (such as global terrorism, SARs and avian flu). Other industries of lesser national significance but locally important include salt making (in the coast), pottery (in Kompong Chhnang and Kompong Thom), brick making (in Kompong Cham, Kandal, Kompong Thom and Phnom Penh), silk weaving and dyeing (in Takeo, Kandal, PreyVeng and Kompong Cham), loom-made cotton (in Kompong Cham, Kandal and Prey Veng), and handicraft production (see Sarathi Acharya *et al.*, 2003a for a discussion of these different activities). There are also reported to be some 20,000 small businesses involved in agro-industry of one form or another but these tend to be of low growth, low productivity and non-exporting (World Bank Group, 2004).

Overall 74% of the labour force is employed in agriculture, forestry and fisheries activities, while trade employs 8%, manufacturing 7% and public administration 3%. The Cambodia Socioeconomic Survey 1999 (CSES 1999) estimated that the total labour force at the time was about 5.5 million or 66.0 percent of the population aged 10 years and above. Growth in the labour force, compared with the growth in industry, would suggest high levels of unemployment. However, there appears to be higher levels of underemployment rather than unemployment as a result of seasonal work and unpaid employment in family-run businesses. There are generally more men than women involved in secondary and tertiary industries, possibly because of the traditionally lower occupational and geographical mobility of women (Sarathi Acharya *et al.*, 2003a). Much of the family-based work is involved in agriculture and fisheries and tends to be low paid or subsistence. The CSES 1999 reported an annual per

capita income of \$250 for Cambodia, \$197 for rural people, and \$691 for people in Phnom Penh.

In summary, Sarthi Acharya *et al.*, (2003b) note that the classical link between high productivity in agriculture and non-agricultural growth is yet to be established in Cambodia. However, growth out of rural poverty and the sustainable use of Cambodia's natural resource base is highly dependent on the rapid growth of sustainable and viable rural livelihood activities in secondary and tertiary industries. If rural livelihood diversification is to occur at a level that will have a major impact on both the sustainable use of resources and address the issue of widespread rural poverty, then the conditions for its success need to be understood and applied more systematically.

A recent study for the World Bank on value chain analysis in Cambodia (Yasuo Konishi, 2003) identified a range of key issues impeding competitiveness and thus development among enterprises operating in Cambodia including:

- Lack of enforcement of existing regulations;
- Poor infrastructure and support services;
- High official and unofficial public sector administrative costs;
- Limited availability and high cost of inputs including energy and finance;
- Weak legal framework, particularly to safeguard rural businesses;
- Poor or non-existent public services;
- Quasi-monopolies and high public sector administrative costs discourage natural evolution of forward and backward market linkages;
- Closed agreements between public and private discourage investments in support services;
- Poor labour skills.

The importance of these and other factors is systematically analysed from both global and Cambodian perspectives in the following section.

9. THE LIVELIHOODS ENHANCEMENT AND DIVERSIFICATION FRAMEWORK FOR CAMBODIA

This framework takes the SL framework and begins to develop a discussion of possible factors which could and do affect livelihood change globally and in Cambodia. Examples from the field research of how different factors have affected livelihood change in coastal communities in Cambodia are also presented.

10.1 LIVELIHOOD STRATEGY RELATED FACTORS

The Nature of Diversification

Livelihood diversification is often a natural strategy of people, in fact Hussein and Nelson (1998) note that rural people in Asia and Africa do not specialise in one activity to the total exclusion of others but rather diversify their productive activities to encompass a range of productive areas. They also say that diversification is different in different contexts as follows:

- Sometimes a means to enable accumulation for consumption and investment;
- Sometimes employed to help spread risk, or to cope with temporary crises;
- Sometimes an adaptive response to longer-term declines in income or entitlements, due to serious economic or environmental changes beyond local control;
- Inevitably pursued via a range of activities that are by nature specific to the local context (in relation to resources available, culture, natural resources, climate etc.);
- Often differentiated (types and degrees of diversification differ according to location, gender, age, class, and culture);
- Usually structured by a wide range of motivations, restrictions and opportunities;
- Often closely bound to and concurrent with the development and implementation of other livelihood strategies, especially agricultural intensification and migration;
- Tempered in form and extent by wealth disparities and differential access to entitlements.

Ellis (1999) states that 30-50% of the income of the rural poor in Sub-Saharan Africa comes from non-farm activities. FAO (1998) estimate that 32% of incomes come from non-farm activities in Asia and 40% in Latin America. This suggests that diversification is a well established strategy in these areas. Swift (1998) claims that diversification is more often driven by need rather than opportunity, although it was suggested that in some situations opportunity and favourable macro-economic policy may also be important (Gordon, 1999). Little *et al.* (2001) say that East African herders pursue non-pastoral income strategies to meet consumption needs and to buttress against shocks. They also note that livelihood diversification is not a universal strategy; they found that, amongst East African herders, it is mainly a strategy of the poor and the wealthy, but not middle income groups. For the relatively rich, diversification is a strategy of accumulation or investment, on the other hand, the poor are pushed into diversification out of necessity (Little *et al.*, 2001). This relationship between the poor and diversification is further supported by Rigg (1998) for southeast Asia.

In the coast in the Philippines fishers are often thought of as being specialised in fishing, and the livelihood diversification away from dependence on natural resources is less likely than in other livelihood activities (Asong *et al.*, 2000). Within this context it is also recognised that within fishing households different people may be specialised in different activities (e.g. fishing, fish processing, fish trade, farming etc.).

Whittingham *et al.* (2003) highlight how people depend on coral reef resources in different

ways; some are full-time specialists, others are seasonally dependent, and some are part-time involved in the sector.

At the household level diversification can become very complex. Individuals within the household may either hold a portfolio of livelihood activities, or be specialists in one, but each member specialising in different activities, possibly in different sectors. There are of course many combinations with these two extremes. In some cases retention of sub-viable farmland areas is done as a safety measure and is supported by non-farm work by other household members (Rigg, 1998). Household diversification is not necessarily equity-neutral (i.e. not everyone in the household necessarily benefits to the same degree). Whilst it may improve the income and/or reduce the risk within the household it may affect the balance of power, decision making and access to resources, especially between men and women.

The current ARDB research in the coast of Cambodia showed that various forms of livelihood diversification and even change are regularly undertaken by households in the area. Probably the most common forms of diversification are “vertical integration” and seasonal diversification, in particular across the various members of a household. This was seen particularly among households involved in fishing where adult male members of the household were involved in various forms of fishing, either as labourers or using their own gears and boats. Often family members might be involved in one type of fishing for part of the year and then shift to a different form of fishing or fish labouring during other seasons. Meanwhile, women and children are often involved in activities that are in some way connected with fishing – crab peeling, sale of crab meat, fish trading and processing, mending of fishing nets, collection of molluscs – and which to varying degrees integrate with the activities undertaken by male members of the household.

Case Study 1 – Diverse household livelihood strategies in Chroy Pros

Although this particular Khmer household is relatively small by local standards – only the parents and their four children – they are involved in a particularly diverse range of different activities that are often inter-related and inter-dependent. The family migrated from Kampot province in 2002, largely at the instigation of the parents of the wife of the household head who were already living in Chroy Pros and suggested to their daughter and her husband that they might be able to make a better living in Koh Kong. The wife’s mother helped the family get started on their principle income-generating activity – a small grocery shop and café in the village – by loaning her some capital and showing her how to run a grocery business. Although no one in the household had any experience in fishing, the elder son of the household decided to start fishing as soon as they arrived in Koh Kong. After working as a fishing labourer for the first year in the village, the son was able to get a loan plus money saved from other activities in the household to purchase his own boat, gear and engine second-hand in the village and start fishing on his own account. He also hires other labourers to work for him on his boat. The crab fishing activities of the son are integrated with the crab peeling activities of the daughter who, when she is not busy helping her mother to run the grocery shop and café, peels the crabs caught by her brother and by the many other crab fishers in the village. With the loan provided by the wife’s mother, the household also bought some land in the village. The household head learnt about farming from local people and started growing bananas and vegetables as well as planting some fruit trees which have not yet started to produce but should provide guarantees for the future. He also invested in some pigs as a means of making best use of some of the by-products from his farming activities. The proximity of the village to Koh Kong town enables them to access additional food for their livestock and veterinary services when they are required. They also mentioned that being able to provide pork for their neighbours has helped them to build relationships and networks within the village, something very important for them as newcomers to the area.

The research also showed that in some households, especially those less dependent on aquatic resources, there was also diversification across sectors where the household might be involved in livestock rearing, mat making, and fishing. This appeared more common in

Kampot province where dependency on aquatic resources was less pronounced.

Vertical integration of activities was also apparent, especially in Koh Kong province, which involved different members of the household being engaged in aquatic resource harvesting, processing and trade, for example the husband might be involved in fishing for crab and the wife and older children in crab peeling and crab meat selling (see Case Study 1). Seasonal diversification often involved moving from the harvesting of one fish species to another as availability or operating conditions were dictated by the seasonal changes. In some locations in Kampot province (e.g. Koh Touch commune), where seaweed farming had taken off as a recent livelihood activity, vertical integration into seaweed processing and trade also occurred as well as some seasonal diversification. There was also some diversification at the household level with some members involved in fishing, others in agriculture and others in service provision such as running a shop selling soup. There was also diversification within the household on the basis of gender and age as outlined in later sections. The case study in the box above gives an example of how these various forms of livelihood integration, diversification and change can be combined within one household.

Perceptions of Risk

Perceptions of risk are considered by many researchers to be a key factor driving diversification. Barrett and Reardon (2000) suggest that diversification patterns are designed to achieve an optimal balance between expected returns and risk exposure within a given situation. We define risk here as “uncertainty which is, or is perceived to be, impact affecting”. NRI (2000) says that resource-poor farmers are usually risk averse. As a consequence they will tend to spread risk across livelihood activities. This may not be the case with fishers who are often attracted to fishing because the risks involved generate the possibility of high returns, or are forced to cope with high risk due to lack of alternative opportunities. However, whilst risk management is clearly an important reason for diversifying livelihood strategies, Little *et al.* (2001) note it is not the only reason and is often not the most important. They point out that it is important to recognise that the rural people are not homogeneous populations living in homogeneous ecosystems, differences between groups and communities increase complexity of responses. For instance, Little *et al.* (2001) note that recently East African herders have started to engage more widely in income diversification, not to move away from livestock, but rather to invest income from other activities into herd expansion. In this situation livestock is seen not just as a source of income and subsistence but also as a source of investment that forms a key part of their risk management strategy, and diversification is seen as a mechanism to deepen involvement in the main livelihood strategy.

The ARDB research was of insufficient duration to understand risk management issues fully, however, there is some evidence to suggest that household strategies are a reflection, in part, of the perceptions of the household of the different risks attached to each of the individual strategies of the members of the household. This is closely linked to the availability of opportunities and to the costs and returns which those opportunities generate. It is likely that decisions to change livelihood activities are based on consideration of the risks associated with these three elements, of opportunity, cost and return, together rather than separately. Seasonal livelihood change amongst fishers is often a reflection of this. The fact that household finances are often moved between livelihood activities in the household and used to fund livelihood change also suggests that choices are made about a portfolio of livelihood strategies together rather than individually.

Migration

Migration generally is a major component of many people’s livelihood strategies in many countries (Hussein and Nelson, 1996). In coastal communities migration is a part of dealing with the migratory nature of the fisheries resources. Ghanaian fishermen travel much of the

coast of West Africa in search of fish resources often forming strong linkages with local traders and processors. In India migration is an important seasonal strategy for many fishermen and their families but this is changing as traditional fishery related options reduce (IMM, 2003). Remittances from migrations play a major part in the investment strategies in the communities left behind but in India, as migrations for work become more permanent, there are changes in the relative roles of women left behind. In Malawi, fishers have, in the past, migrated to neighbouring countries to work in the mines for short periods to raise enough finance to invest in new boats and nets.

Migration is a major strategy which people in rural areas also use to respond to changes in the economy. Migration plays a major part in the life of the rural poor in Cambodia with many people moving around the country in search of seasonal employment or moving to new areas in search of permanent employment or income, especially to major urban centres. Many people moved from inland to the coast with the improved security situation and this was encouraged by the government providing access to land. As a result of the recent policy reforms in the fisheries sector, many people have migrated to around the Tonle Sap Lake to take advantage of the increased agriculture and fishing opportunities that the reforms have created.

The ARDB research found that migration into the coast, particularly to Koh Kong, has been a major factor in increasing the local population. People were attracted by the improved security situation in that area, the aquatic resource exploitation opportunities and the potential for acquiring title over land. Some were also pushed by drought or other adverse conditions in their home provinces. Linkages with the province of origin were important for some households as a source of knowledge and skills for diversified employment opportunities. Cross-border movement of labour was also likely to generate knowledge of new skills which could enhance livelihood opportunities.

It is clear from the findings of the research that migration and mobility are relatively widespread as components in people's livelihoods, although it is more difficult to say whether this is a particular feature of coastal livelihoods or something that is found throughout the country. It is significant that several of the migrant households encountered during the research had moved to other inland areas prior to settling in the coast and there is considerable anecdotal evidence that seasonal or periodic movement in pursuit of livelihood opportunities is a fairly common feature of rural livelihoods in much of Cambodia (particularly to take advantage of seasonal fishing opportunities). Case Study 2 below gives several examples of migration patterns encountered during the research.

Case Study 2 – Migration patterns among coastal households in Kampot and Koh Kong provinces

One Cham fishing family from Kampot had moved out of their home community in 1986 due to fighting and insecurity in the area. They first moved to Sihanoukville where they continued fishing and also were given land by the authorities but, faced with poor yields from the land they had been given and declining fish resources, they decided to migrate to Koh Kong after about 2 years. Initially, they moved to Koh Kapi commune to work as fishing labourers. After purchasing their own craft and gear they moved to Don Thung commune. After 6 years there, they moved again to Peam Krasoap largely because it was closer to the sea and access to fishing grounds was easier.

Another family in Peam Krasoap was originally from Prey Veng province and had migrated to Kampong Cham from 1983 to 1993 as there were opportunities to gain access to land there through relatives. The family decided to move back to Prey Veng in 1993 for a variety of reasons – continued Khmer Rouge control of the areas near where they lived, high priced for inputs for farming, a bout of disease for the household head, loans to neighbours that were not repaid. These pushed the family to move back, but once in Prey Veng they were quickly attracted by news of work opportunities in Koh Kong and this led them to migrate to Peam Krasoap.

Inter-generational investment

For many people around the world the investment in their children's education is a major livelihood strategy that aims to provide long-term benefits. In rural Cambodia, however, the demand for skilled labour is so low that, at present, investment in education is perceived as being unlikely to generate returns from the local labour market. Even the garment industry where labour growth has been good in recent years, is not skill-intensive (World Bank Group, 2004).

The ARDB research found that education was often associated with better-off households and some of the families from Koh Kong Province sent their children to Thailand to access better education facilities taking advantage of their location close to the Thai border. In the main people were very concerned about access to vocational skills that would allow them to take up livelihoods and people often passed skills from parents to children and between households in the village. Parents also invested financially in their children's livelihood activities. For poorer households children below the age of about 10 might be seen more as a burden on the household financial resources than a benefit but even these can engage in crab peeling and fish fry collection.

10.2 RESOURCE-RELATED FACTORS

There are a variety of resources (human, social, natural, financial and physical) available which people use to forge a livelihood.

Factors relating to human resources

People's human resources are often the ones that play the most important role in their ability to take up and maintain a particular livelihood strategy. These resources include their education, knowledge, skills, attitudes, identity, beliefs, and health.

Over 2 million people derive employment from the fisheries sector and related activities. Fishing provides a diversified livelihood base in order to provide a safety net for households during time of distress such as: drought, pest outbreaks or flood. Although the actual number of people employed in fisheries related activities in Cambodia is unknown, fisheries in general is thought to provide a livelihood for many more people than are represented in the official statistics. About 35% of the workforce is involved in more than one occupation (Council for Agricultural and Rural Development, 2001) and fisheries may well be a subsidiary occupation for many. In recent years, policy reforms in the fisheries sector have allowed many more people to join the fishery than existed previously (CFDO-IMM, 2004).

In Koh Kong Province more people were dependent of aquatic resources for their livelihoods, in part because there were adequate resources for them to make a living. In Kampot more people regarded fishing as a secondary activity.

Attitude and identity

A key element of human resources is the sense of identity that people have and how that defines what they do. For many people in coastal areas in the world, especially fishers, their job defines their character and many aspects of the sense of self and identity. In extreme cases such as in Hindu cultures the role of fishers are allocated to specific castes. In the Cambodia coast at least the Chams appear to have a strong identity linked to fishing. This linkage of identity with occupation often acts as an obstacle to people moving into new occupations. Sons follow their fathers, daughters follow their mothers, and in some cases they adhere to the same forms of technology as well.

The ARDB research found that, the majority of people involved in exploiting aquatic resources in the coast of Cambodia, did so because of the livelihood opportunities that this created rather than because of some deep rooted identity with fishing. When provided with a better opportunity which was not dependent of aquatic resources they readily took these up,

for example when people were provided with land in Pream Krosaob, Koh Kong Province, to enable them to move from their houses over the sea, many readily moved and many changed their livelihood activities towards land-based activities including agriculture.

Education

Limited numeracy and literacy skills are significant obstacles to operating a micro-enterprise or to carrying out many of the tasks involved in work in the formal sector. In the Gambia the inability of fish traders to carry out basic mathematical calculations relegated their business strategies to chance and as a consequence they rarely made a profit and had no hope of progressing beyond basic survival levels. Training in basic numeracy skills dramatically improved their business performance, reduced their risks and allowed them to expand their operations (IMM evaluation of an EU funded project, 1990). Dasgupta *et al.* (2004) found that formal education levels tend to rise with the technology and capital employed in small businesses in Indian rural towns suggesting that education is positively correlated with the value of assets owned by the entrepreneurs. NRI (2000) notes that secondary education stimulates entrepreneurial capacity whilst primary education enhances work force productivity.

The World Bank Group (2004) states that there is a profound link between economic growth and productivity in Cambodia, but whilst Cambodia's economic growth has been good recently, productivity, especially labour productivity is very low in comparison with that of countries with which Cambodia must compete. They indicate that the working population in rural areas of Cambodia are characterised by extremely low levels of educational attainment and most jobs are low skilled jobs. Whilst this does not seem to be a major problem in existing low skilled agro-industries it does present a major barrier to improvement of those industries into more sophisticated product development. In work carried out by the Department of Fisheries' Community Fisheries Development Office under the DFID-funded Post-Harvest Fisheries Livelihoods Project it was found that a fear of the risks and uncertainties associated with applying and relying on new knowledge was a major obstacle to livelihood change in fish processing. Sarthi Acharya *et al.*, (2003b) note that a lack of people in the rural environment in Cambodia with good basic education is a major factor limiting the acquisition of enterprise and technical skills for livelihood diversification. They also note that business acumen is limited to the few, especially to those in specific ethnic groups. However, the benefits flows from education are not restricted to the person gaining that education; an educated person within a household can provide a range of benefits (such as advice, suggestions etc.) to the less well educated members (see evidence cited in NRI, 2000). As such education of the individual can become a household asset.

The ARDB research indicated that whilst education was considered as an important long-term goal of the poor, many of them did not have the financial resources to put their children through the education system. As mentioned above, their primary concern was for vocational training to allow them to engage in livelihood opportunities that were available (see below also). Education was seen as a contributing factor of the success of richer families and is valued when it is provided free of charge. However, for the very poor the idea of investing in children's education often seems too remote a strategy given the costs involved and the effective loss of household labour. People with few opportunities to change their livelihood options often felt that education would do them little good, it was not seen as crucial to successful fishing and farming, for instance. The research found that people often questioned the value of the existing local education services and some, who were able even made the choice to send their children away for schooling. In better off households there were family members who were well educated even when the household head was not literate and this could provide a valuable household resource giving benefits across a range of livelihood activities.

In some situations skill development and training through previous careers were of benefit in

the village. A teacher was able to put his numeracy, literacy and wider knowledge to benefit in a number of livelihood activities. An ex-agriculture specialist from the Department of Agriculture was able to apply his technical knowledge to agricultural activities.

Technical skills

Most people have a range of technical skills associated with their chosen occupation, in some situations these might be quite basic, and in others such as fishing and agriculture they may be complex and highly variable between groups. In Cambodia such technical skills tend to be passed on from one generation to another within families although NGOs have played an important role in skill development in some areas such as pottery (Sarhi Acharya *et al.*, 2003), (see ADB, 1998 for a review of many of the technical training institutions available to women in Cambodia). For migrant workers, or ones where several languages prevail, knowledge of the language of the market may be important.

The ARDB research found that vocational skills were in high demand in the communities studied. For most people these were essential for the livelihood choices which they had made. New skills and knowledge seem to be actively sought out and are mainly accessed through parents, relatives, friends, neighbours and employers rather than through formal mechanisms. People often reported that they learnt skills by being labourers to skilled workers and gradually acquired knowledge. This sharing and exchange of skills was often seen as a major part of the social network in communities. The poor are much more interested in vocational training that relates directly to specific livelihood opportunities that they can see as a viable addition to their household portfolio of activities. In the situation of the seaweed farming development in Koh Touch commune, Kampot, skills were initially transferred by an entrepreneur from Malaysia, these were then passed on by the local people.

Significantly, people also seem to be prepared to invest in the acquisition of new skills and knowledge. In Peam Krasob, in Koh Kong Province, one respondent, who had not had experience in fishing in the past, had effectively hired an experienced fisher to help him “learn the trade”. In this case the person was not “poor” and had resources available to invest in acquiring new skills so that he could participate in a livelihood activity that he perceived as being profitable. But even poorer households seem to actively seek out means of acquiring new skills from relatives, neighbours and employers. The case described in Case Study 3 above illustrates the diversity of sources from which households gain access to new skills and knowledge and the range of factors that can push households to seek out and acquire those skills.

Case Study 3 – Coping with changes in Koh Kong

The story of one large household from one of the communes in Koh Kong province illustrates how households can acquire the skills and knowledge necessary to maintain a relatively diverse livelihood strategy. This household, made up of both parents and their 5 children, moved to Koh Kong from Takeo province in 1987. The household head was originally a rice farmer but was forced to look for alternatives to farming after moving to Koh Kong because of the insecurity in the area due to continued Khmer Rouge activity. Fishing provided an obvious alternative in the area and the household head learnt fishing skills from other local fishers and eventually moved the family to their current village because it was closer to the sea and further from the forest where guerrilla activity was rife. In the face of increasing competition on their fishing grounds, the family has intensified their level of fishing activity, buying more crab traps, and has supplemented fishing with new activities. They have recently started to cut poles in local mangrove areas in response to demand from a local middleman for poles to build aquaculture pens. They can circumvent restrictions on pole cutting with relatively small payments to local enforcement officials. Reflecting a relatively long-term vision, they also cleared some nearby forest and planted fruit trees some 3 years ago using skills learnt from their neighbours and easy access to undeveloped, and unprotected, forest areas. They have also taken up pig raising, learning the skills required from neighbours and taking advantage of support from the SEILA Programme.

Entrepreneurial skills

Entrepreneurial skills are essential to the development of a sound business development environment.

In some instances in Cambodia entrepreneurial skill has been imported from neighbouring countries. In the coast the seaweed, shrimp culture, and fish fattening initiatives have been driven, at least at the beginning, by outside skills and knowledge. But basic business management skills need not necessarily be gained through formal training or external sources, many skilled micro-enterprise operators learn from their parents or from neighbours or friends or on the job.

Where credit is an important part of the strategy, knowledge of the management of credit arrangements, repayment scheduling, saving, and interest rates will all be important. Selling goods and services may also require a sound knowledge of the market, how it functions, what determines prices, what changes supply and demand, and how to access alternatives. For many poor people in Cambodia this knowledge is not easily accessible and a lack of transparency and competition result (World Bank Group, 2004). Knowledge about the laws and policies that concern the strategies that the poor adopt may also be important if people are to avoid trouble with the authorities or to avoid excessive transaction costs. In Cambodia the rural poor often face a wide diversity of regulations which are too complex to understand or to be fully aware of.

The ARDB research did not find any direct evidence for the effects of the existence or lack of entrepreneurial skills beyond the recognition that some people within communities were regarded as leaders in livelihood change. When opportunities were created in the villages there seemed to be no shortage of people willing to take them up. However, the limited number of opportunities means that there are sometimes major swings in the direction of these opportunities with many people entering them at once (e.g. grouper fattening, seaweed culture, pole cutting). This resulted in competition and a decline in the benefits generated for participants. This was not a major concern if the particular livelihood activity in question was just one part of the overall diverse household strategy but where it becomes the mainstay of people's livelihoods it can be a concern and make those people more vulnerable to sudden changes in market conditions.

For at least some of the communities studied the markets for some products tended to be local or controlled by one or two buyers from outside. These traders often controlled the flows of goods and services into and out of communities by their power over people whom they had lent money to. Where good cross-border markets existed competition between suppliers was less of an issue and in some cases people showed considerable initiative in seeking out alternative markets (exploring new markets for seaweed in Koh Touch, Kampot Province for example). This suggests a need for a sound understanding of markets and many of the people interviewed expressed an understanding of, if not the means to affect, market forces on their livelihoods. However, some poor people had experimented with holding back rice or sugar palm juice to make better use of the market and seasonal prices. Although, they are not always able to this.

Health

The health of people is an important part of their human capacity. It affects their ability to work and can impose a cost burden when medical services are accessed. For many people who have invested heavily in physical resources, such as fishing boats, ill health can be a major concern which can result in capital downtime resulting in increased indebtedness and sometimes loss of equipment. In work implemented by the CFDO (through the Cambodia Post-Harvest Fisheries Livelihood Project) in Cambodia's coast it was found that indebtedness was on the increase and poor health is a major factor in this. Health is often linked to age and poor health can be a particularly important factor affecting the ability of

older people to maintain their livelihoods, often forcing livelihood change.

The ARDB research found that health played a major role in determining what people, especially those dependent on aquatic resource harvesting, could do with their lives. Ill health meant that arduous work, such as fishing could not be carried on. In some cases this led to people changing their livelihood activities altogether for example from fishing to driving a moto taxi. When ill health took on the more permanent form of disability it sometimes tied up both the sick person and another member of the household who would have to act as their helper. In the extreme case where a key earning household member died this could dramatically affect the livelihood outcomes of the whole household in turn affecting future choices and strategies.

Health care was also a major drain on people's financial resources. The cost of medical treatment affects savings and borrowings and thus investment and indebtedness. Ill health plays a major role in the livelihoods of all groups but especially the poor where medical bills can lead to indebtedness, loss of land and other productive assets. Health is an important "push" factor in determining livelihood diversification or change (often, but not always, with declining livelihood outcomes) although family networks are often called upon to compensate for livelihood changes as a result of health factors. Case study 4 describes several examples from the ARDB research where changes in health had a major influence on people's livelihood.

Case Study 4 – Dealing with ill health – an important cause of increasing poverty

One family from Svey Toung Khang Tbong in Kampot province had been forced, in 2002, to sell both their land and their house in order to pay for medical treatment for one of their children who had fallen seriously ill. This led to a complete revolution in the family's livelihood and their long term prospects. They had to give up their farming activity and the household head had to start working as a labourer both in fishing and on the local salt-pans. Other children that were in school had to leave school in order to work and contribute to the household's livelihood, thus affecting the family's long-term prospects for change. Having sold their principle assets, the family is now heavily reliant on incurring further debts in order to survive – they cannot afford to buy fishing gear and so have to borrow or rent gear from neighbours. The family faces a steadily declining standard of living with little prospect of improvement in the near future.

In a Cham family from Kampong Samreung in Kampot province, the eldest son of the household had migrated to Koh Kong to fish in the past but had been forced to sell his fishing boat and gear to pay for an operation following an illness over 10 years ago. Following this, he had returned to live with his mother in Kampong Samreung and was able to access a loan from the Cham Association in the village which he used to start a moto-taxi business. This activity, combined with more traditional activities like fish trading and fishing net mending carried out by the respondent's mother, wife and children have enabled the family to keep going, but continued ill health means that their livelihoods are insecure and generally in decline.

Factors relating to social resources

Social resources include the networks and relationships which exist in communities and groups, and which people make use of to access other resources or activities in their livelihoods. Some of these are very informal such as trading linkages (e.g. when migrating fishermen link up with fish traders in other countries to sell their fish). Others might be more formal (e.g. where people belong to groups such as savings and credit groups).

Social resources are very important for both social and business reasons. Social relations, especially kinship ties, can provide a social safety net in difficult times. Social resources can also facilitate business by establishing trust relationships which can be depended on, thus reducing risk. In Cambodia the majority of credit provided for small business expansion and growth comes from family and friends (World bank Group, 2004) and the shared trust between people on either sides of such relationships reduces transaction costs. Trust was

found to be the basis of informal credit systems in the post-harvest sector (Hap Navy, 2005). Some social relationship can also have negative effects. Relationships of the richer and more powerful members of a community or group may exclude the poorer or weaker members from becoming involved in decisions or gaining access to resources.

Many fishing and fish processing activities in Cambodia are based around a family group and small enterprises mainly employing family members. Most of these enterprises employ less than five people. Pottery-making likewise tends to be a family enterprise whereas weaving tends to be operated by individuals (Sarathi Acharya *et al.*, 2003a). An example of the importance of social resource use is given in Case Study 5.

Case Study 5 : Support from the community in Kampong Samreung

The 40-year old son of this household used to live in Koh Kong where he worked as a fisher using his own boat. However, in 1991, he fell ill and had to have an operation. To pay for the treatment he sold his fishing gear and boat and then returned to Kampot and moved back to his mother's house in Kampong Samreung. There he has been supported by the local Cham Association who have given him a loan to purchase a moto-taxi which he now uses to support the family. This association provides loans to poor families with flexible repayment arrangements so that the risks and liabilities are minimal. In addition to support from this association, the family has had help from relatives in Malaysia who have sent money which the family has used to pay for the son's treatment, to buy rice and to invest in the mother's fish trading activity.

Globally, there is increasing emphasis on the formation of self-help groups (SHGs) in communities as a mechanism to channel micro-finance and credit, to increase community collaboration and cooperation, and give voice to particular groups, especially women. SHGs have been very successful in Bangladesh and they are of growing importance in India. In delivering services to the very poor, SHGs require careful structuring and operation.

However, for many very poor people their inability to save, to spend time at meetings, to gain the social acceptance and to understand procedures limits their capacity to become involved in SHGs (IMM 2003c). In Cambodia SHGs are also playing an increasing role but their sustainability is yet to be established.

The ARDB research found that social resources in all the communities studied was important in generating and supporting livelihood change. Family and kinship connections are by far the most important of these social relations, although links with neighbours, friends, intra-community networks and with local patrons such as middlemen or employers are also important. These networks work in many ways. Friends and relatives provide loans in times of need and to support new enterprises. Middlemen and employers also seem to be ready to provide the financial resources needed by their employees to set up new businesses. In Svay Tong Kang Tbong, in Kampot Province, people shared bicycles within the village reflecting a good level of trust and mutual support. As mentioned earlier, these networks are also particularly important in the transfer of knowledge and skills with respondents actively seeking to learn new skills from relative, neighbours and employers. In general, the level of collaboration between households within the communities studied seemed to be quite high, suggesting that there is potential for building on existing relationships of trust in order to improve communities' access to resources and improve their capacities.

While social resources are extremely important for almost all respondents, it was noted that the Cham community in Kampong Samreung, Kampot Province, seemed to have particularly strong social networks, often not only within their community but also extending outside to other Cham villages. Case Study 5 above illustrates how social resources are mobilised within the Cham community to support those in particular need.

Factors relating to natural resources

Natural resources include the fisheries resources and their biodiversity, the mangroves which are used as a source of timber and aquatic resources, the sea, lakes and rivers which people fish in and use for transport, freshwater for drinking, good agricultural land for gardens, and forests for fuelwood for fish smoking and cooking, and for timber for houses. Coral reefs can also play an important role in providing a diversity of aquatic resources for food and income, building materials, tradable shell money, and inputs for lime production. Natural resources can be converted into financial resources (e.g. by selling fish), into physical resources (e.g.

Box 2: Dependency and Natural Resources

The relationship which people have with the natural resource base is complex. Aquatic resources underpin the livelihoods of many millions of people worldwide. The level of dependence of these different people on aquatic resources varies, from those whose association is full time, to part-time users and those who only occasionally depend on the resources. In some areas, particularly in Cambodia, that dependence is extremely high. Some may depend on the aquatic resource only on a seasonal basis, but that dependence may be absolute and, at such times, the resources can become a critical *keystone resource* without which their survival would be threatened. Others may only depend on aquatic resources occasionally, when it acts as a *safety net* that enables them to overcome periods of hardship or crisis. In this way, those not generally considered as 'aquatic resource users', such as farm labourers, may also be dependent on aquatic resources at certain times. They may make use of aquatic resources for food or income during slack periods in the seasonal cycle of agricultural activities when labour demand is limited or when there are droughts or crops are affected by pests or disease (Whittingham *et al.*, 2003).

trees into buildings), and human resources (e.g. fish for a healthy diet) and their extraction and use may also be built on networks of social relations (Box 2).

Agriculture and land

Agriculture (in its narrower sense of just farming) is often seen as the driving force for rural industrialisation (Haggblade *et al.*, 2002). Expansion in agricultural productivity, and the resulting rural cash surpluses, can be a major driver for growth in the supply of a wide range of secondary and tertiary goods and services. Government agricultural policy can have very profound effects on the livelihood options of the poor. China is an often-quoted example where changes in agricultural policy led to a rapid expansion of agricultural output. This in turn led to a dramatic expansion in small-scale industry and commerce fuelled by the rise in local incomes and improved savings (NRI, 2000).

In Cambodia agriculture productivity can be substantially increased with new technologies, skills, and secure land tenure arrangements. Likewise capture fisheries production can be stabilised through better management and fish production increased from fish farming and rice/fish culture. Combined they offer great opportunities as engines for rural growth. Most rurally-based employment and income opportunities in Cambodia are either directly or indirectly dependent on natural resources. The main occupation of the rural poor in Cambodia is farming which is focussed on the belt of land stretching from the northwest to the southeast of the country where 70% of the population are located on 30% of the land. Most of this activity is rain-fed agriculture (20% of the land) around the river systems and lake. The bulk of agricultural production is from rice with 90% of agricultural land employed in its cultivation. Cassava, soybean and maize are also grown, and livestock also play an important role. Whilst rubber is the main agricultural export crop it does not make up a major percentage of total production.

Many of the coastal people are migrants who have been encouraged to settle in the depopulated coastal area after the security situation in the country improved. Some of these people were given access to small areas of land that, in many cases, are only capable of

providing for subsistence purposes. In other parts of the world the coastal land available to each household is declining because of increasing population. In Vietnam large numbers of coastal people have access to limited land or land of low productivity and so people wishing to leave fisheries and move into agriculture have few opportunities (Ha Xuan Thong, undated).

From the ARDB research, the importance of land as a key asset was clear. In Kampot, even among groups such as the Cham fishers who have traditionally placed limited emphasis on agricultural activity, access to land is seen as an important factor in enabling households to deal with declining returns from fishing. In Koh Kong Province many people were, at least initially, attracted to the area above all by the good access to fisheries resources found there and were thus less concerned about access to land. However, as competition for fisheries resources has increased, interest in shifting to land-based activities has also increased. Where land had been provided as an incentive to people to settle in the province this had been a major factor in determining their choices regarding changing their livelihood patterns. Secure tenure over land also has implications for borrowing larger amounts of cash from formal lending agencies. These agencies often consider land, houses and livestock reared on that land, as important forms of collateral for loans.

Agricultural land was also shown to provide a diversity of opportunities for people to change their livelihood activities. Rice growing might give way to fruit trees or to pig rearing and this was found to be important as people became older and wanted to change their livelihood activities. However, in some areas land productivity has started to decline because of a lack of inputs and in Kampot Province salt water flooding has severely reduced agricultural productivity in some locations.

Non-Agriculture based activities

In Cambodia dense forest with low population density characterize the north, northeast and southwest of the country making up some 60% of the land area. Others areas include scrubland, inundated forest and water resources. These contribute very significantly to the broader economy and to the livelihoods of people who depend upon those resources (legally or illegally), particularly for non-timber forest products.

Fisheries resources are also critical. Sarthi Acharya *et al.*, (2003a) state that two of the main sources of non-farm rural employment in Cambodia are fishing and fish processing. According to Sarthi Acharya *et al.*, (2003a) the productive efficiency of small-scale fish processing enterprises is high, offering positive livelihood outcomes for those who take up these opportunities.

Seaweed farming is a rapidly expanding coastal activity in Kampot Province which provides either an additional opportunity for many fishing households or an alternative to fishing (Hav viseth and Ngor Peng Bun, 2005). Likewise salt production is a significant source of employment for some coastal areas such as in Kampot (Yin Dara and Lieng Saroeun, 2005).

Closely linked to the natural resource base is tourism. Whilst much of the tourism in Cambodia is linked to the history and culture of the country, tourism related to the beauty of the countryside and forests, the amenities of the seaside, and environment of the Mekong river system is expanding. In Kampot, tourism related industry associated with the beaches and the Bokor National Park are expanding. However, recent experience in the coast (from the CZM project) suggests that tourism does not provide many opportunities for the coastal poor, who lack appropriate skills and capital (Ouk Lykhim, pers comm. 2005).

The ARDB research confirmed this general picture with non-agriculture natural resources playing an important part in the livelihoods of coastal people. One of the key findings of the research is that dependency on aquatic resources is closely linked to the diversity of ecosystems and species that allow people to change their livelihood activities between those ecosystems and species according to a range of constraints and opportunities which the people

face. This diversity promotes continued involvement in the fisheries sector and enhances dependency, it also encourages specialisation over time as households become better able to vertically integrate their activities.

In Koh Kong there was a high dependency on aquatic resources such as fish, crabs, mangrove snails and mangrove wood for poles. Access to these resources provided the majority of households with at least part of their livelihood income and enabled them to survive throughout the year. Declining catch rates, due to greater competition within the fishery, have been experienced by many in the fishery and this has forced some people to target new species, to use different gear types or to leave fishing altogether. Some people have moved from fishing into other activities such as boatbuilding, agriculture or livestock rearing.

In the past, free access to the forests in Koh Kong has provided people with fuelwood, building materials and wood to sell. Recent changes in this access have made harvesting of the wood more difficult and some people have had to travel much further a field to make a living from wood collecting or seek ways of by-passing restrictions on access to forest resources and continue to make use of them illegally.

Patterns of dependence on aquatic resources in Kampot Province are somewhat different from Koh Kong. Fishing activity seems to have always been more balanced with agricultural activity in this area. Some groups with higher levels of dependence on fishing, have responded to resource declines in the area by migrating, permanently or temporarily, to Koh Kong. Currently, it seems to be generally recognised in Kampot that dependence on aquatic resources for a livelihood is insufficient and households seem to actively seek out means of diversifying. Salt production is providing important labouring opportunities (especially for women, see ADB, 1998) and, as mentioned, more recently, seaweed culture has expanded and become an attractive alternative. In some cases, people have started to vertically integrate into the production, processing and marketing of seaweed.

Factors relating to financial resources

Financial resources are vital to small business start-up, survival and growth and key determinants in accessing new livelihood opportunities. They enable the purchase of business inputs, the employment of staff, the accumulation of outputs, and the transportation and marketing of products. Without good supplies of financial resources available to rural communities the possibilities of rural industrialization are small.

A diversity of financial resources

Financial resources take a diversity of forms. They not only consist of cash and savings but also access to credit, and to the ability to quickly and easily convert other resources (such as cattle or jewellery) into cash. They also consist of monetary substitutes (e.g. in the case of Cambodia rice is often used as a medium of exchange). Remittances from family members working in the city or overseas may also be important and level of migration in Cambodia, makes remittances an important financial resource. Financial resources are the most versatile of resources. It can be converted fairly easily into most other types of resources. It can also be used for the direct achievement of livelihood outcomes (e.g. to purchase fish to increase food security). The total amount of financial resources, their seasonal availability, their different forms, their cost and ease of access, their relative purchasing powers and their distribution within a society all affect the ways in which livelihoods may diversify and rural economic growth can take place (Box 3).

The ARDB research found that households use a range of sources to access the financial resources they need for livelihood diversification. These include friends, relatives, middlemen or neighbours, as well as existing income from activities or the sale of assets. They combine these sources to both achieve their level of desired credit and to offset the risks associated with any one source.

Formal credit seems to be quite widely used, especially by those who are better off. Such credit is to a certain extent limited by collateral requirements (particularly land in the case of larger loans) and so those people with few assets have difficulty accessing such credit. Land acquisition is often an important step in accessing more formal credit systems, and where the government has made this easy (as in the case of measures to promote migration to Koh Kong or to settle returning refugees post-conflict) this has allowed even some of the poor to gain access to reasonable amounts of formal credit. Age and sickness were reported as constraints to getting credit. While there are cases of people losing their land as a result of taking out formal loans, some people seem to have been able to use formal credit effectively to diversify, enhance or change their livelihoods.

In some instances, foreign entrepreneurs have played an important role both in providing financial support to producers and in channelling expertise and skills as well as opening marketing channels. This has been seen in diverse activities such as seaweed culture, shrimp farming, grouper fattening and new “Vietnamese” techniques for squid fishing.

Box 3: Income distribution and Rural Diversification

The distribution of finances within a society can affect the potential and direction of rural economic growth. In any society, financial resources are more evenly or less evenly distributed between members of that society. The Gini coefficient is a way of expressing this relative distribution of financial resources where a coefficient of zero means that income is completely evenly distributed and a coefficient of one is where income distribution is completely unequal. Cambodia has a coefficient of 0.4 which is higher than Vietnam (0.36) and Lao (0.37). This could suggest a reasonably well distributed wealth profile, although it may also suggest that the vast majority of people are uniformly not well-off.

Countries with a high Gini coefficient are likely to have quite different domestic market profiles for goods and services from those with low coefficients. Countries with a high concentration of wealth in urban centres (such as Cambodia) are likely to have urban-based secondary and tertiary industry growth rather than rural growth. As incomes rise, households spend more of their money on education, health, transport, cinemas, and prepared foods (Hazell and Roell, 1983 cited in Haggblade *et al.*, 2002) and less on the goods and services provided by the rural economy.

If there are major imbalances in the distribution of wealth so that it is concentrated in urban centres this is likely to be a significant obstacle to the diversification in the rural economy in that urban wealth tends to buy urban goods and services. In Cambodia the balance of wealth between urban and rural areas is heavily skewed towards the urban. This means that the potential to expand urban demand for rurally produced goods and services is likely to decline in the future as more demand is focused on more sophisticated supplies of goods and services.

Credit

Lack of access to credit is often cited as a major constraint to livelihood development. The Grameen Bank in Bangladesh has created a major programme of credit provision for the poor which has proved successful in helping those people to develop. Many other NGOs and government institutions have followed in their path with varying degrees of success. Dasgupta *et al.* (2004) says that despite substantial flows of government financial resources through rural credit schemes in India the overall impact on enterprise creation and poverty reduction has been disappointing. In addition they found that many entrepreneurs found bank credit procedures and costs prohibitive.

Credit provision for most people in the rural environment in Cambodia is from informal sources such as family savings, traders and input suppliers. Essentially Cambodia’s economy is cash-based and local banks only provide around 1% of working and investment capital, while the majority of small enterprises get most of their financing from family and friends. As such the rate of economic growth in the economy is largely determined, and limited, by the availability of cash (World Bank Group, 2004). Within the village, where most of the credit is from intra-community sources, there is very little in the way of financial resources to

stimulate and facilitate widespread development. Key exceptions to this localised cash funding are tourism and the garment industry which are largely funded by investment sources from outside the country.

The lack of interaction with formal credit institutions is often a reflection of the conditions of the loans, which rarely reflect the needs of the rural poor. Commercial banks have not found it easy to lend to the rural poor in Cambodia and even agencies such as ACLEDA, which have the majority share of the market (Sarathi Acharya *et al.*, 2003b) do not find it easy to lend to the people who are very poor. The rural poor are more dependent on informal credit mechanisms as they lack sufficient collateral and income security to access formal loans, whose inflexible repayment conditions expose them to high risk. In 2001 there were 75 institutions providing credit to 21% of rural households in Cambodia but this fell severely short of demand (EMT, 2001 quoted in Sarathi Acharya *et al.*, 2003b).

In the informal sector interest rates can be high, in part as a result of the risks and transaction costs of informal lending. They may also be linked to product supply agreements where lenders have access to fish or agricultural produce, usually at less than the going market rate, in return for lower interest rates on loans. However, informal credit is also more flexible in terms of repayment, allowing for the seasonality of incomes of rural poor households. The cost and conditions of borrowing are major obstacles to livelihood change but self-help savings groups and micro-finance schemes are beginning to improve the availability of cheaper finance.

Box 4 : GDP and Diversification

Those countries with high GDPs, often have diversified economies which both contribute to further GDP growth and benefit from it. Cambodia has one of the lowest GDPs per person in Southeast Asia, even when purchasing power parity rates are taken into consideration (Yoshihara Kunio, 2000). This severely restricts the availability of money to drive the rural economy forwards and is a significant factor in limiting the reliability of development comparisons with countries such as Singapore, South Korea, Malaysia, Thailand and Indonesia.

In some cases where the borrower is well known to the lender or has a sound reputation, credit may be given free of interest. Traders and middlemen in particular play a major role in stimulating and financially supporting the development of livelihood alternatives and providing market access but they have a range of lending conditions which are not always accessible to the poor. Those people who are highly dependent on aquatic resources are more likely to be able to access credit from middlemen because they are generally making money on a daily basis, although seasonally in may be highly variable.

Wages

According to the CSES (1999) the main rural income source is agricultural work and this makes up 50% of the incomes of most rural income groups. Common pool resources such as fisheries and forests provide an average of 14% of incomes, rising to 21% in the poorest households illustrating their importance in poverty reduction. Wage rates in rural secondary and tertiary industries in Cambodia vary considerably but are generally very low reflecting the high supply and low demand in spite of the generally high levels of productivity and profitability of many secondary and tertiary industries (Sarathi Acharya *et al.*, 2003b). Wages make up some 13% of average rural household incomes but this falls to 9% in the poorest groups. Different industries have different employment structures. In Cambodia employed people make up almost 100% of the brick making industry, 20% of fishing enterprises, and less than 3% in fish processing, silk and pottery where family members predominate (Sarathi Acharya *et al.*, 2003b).

Some people enter wage labour to learn skills and to save money to invest in their own physical resources to allow livelihood change. Sometimes these savings will be invested in

activities similar to those from which the savings were generated, for example a man may become a fishing labourer to save to get his own boat and gear. But this is not always the case, in some situations people save in one activity, such as construction labouring, to invest in other activities, such as purchasing a moto taxi.

Remittances

Remittances play an important role in allowing rural households to invest in new livelihood opportunities. Remittances of money from migrant workers to rurally-based family members can take several forms. Migrants workers in foreign jobs may send a proportion of their income back to their families and this happens in Cambodia, for example, from workers in Thailand. Likewise, migrants from rural communities to urban jobs, for example in the garment industry or tourism industry, may send remittances back to their rurally-based families. People may also migrate from one rural area to another and send remittances between those areas. Remittances make up around 9% of rural incomes rising to 12% amongst households in the poorest groups (World Bank Group, 2004).

The ARDB research did not find many references to the importance of remittances but given the degree of migration and the dependence on cash flows between family members, this is likely to have been a lack of focus of the research rather than the absence of remittances. Where remittances were mentioned they were sent from family members working in major urban centres such as Phnom Penh, Sihanoukville and Koh Kong town to family in rural villages.

Productivity and profitability

In part, income derived from an enterprise is dependent on the productivity of capital and labour employed. The majority of rural industries in Cambodia employ low levels of capital and as a consequence the productivity tends also to be low (Sarthi Acharya *et al.*, 2003b). This results in low profits and constrains opportunities for people to invest in new livelihood opportunities. It also results in the majority of people engaging in industries which are low entry-cost industries in the informal sector, such as petty trading, that tend to remain small (World Bank Group, 2004). Terms of trade are also important in deciding income to enterprises and the widespread use of the US dollar in Cambodia can mean that the value of Cambodian products tend to reflect wider economic considerations rather than the regional ones affecting the markets that they supply. This in turn affects profitability and investment prospects.

The ARDB research indicated that the effects of US dollar are more likely to be pronounced in the urban environment rather than the rural coastal areas. Here the currencies of neighbouring countries are more likely to determine the costs and incomes that people experience. This is particularly the case in border areas, e.g. in Koh Kong where the Thai Bhat is used interchangeably with Cambodian and US currencies.

Investment in growth

In agriculture, high levels of investment are required for inputs early in the season and incomes do not emerge until much later but often do so over a short time period. In addition poor road conditions in Cambodia increase supply uncertainties to such an extent that larger than normal inventories of inputs are required to remain in business thus tying up finances that could otherwise be used for expansion (World Bank Group, 2004).

Financial capital investment in the majority of other rural industries tends to be small to medium but where specialised equipment such as fishing gear or brick making ovens the levels of investment can be high. Fish processing, trade, silk weaving, pottery and handicrafts in Cambodia tend to have relatively low levels of investment. In fisheries, there are many activities requiring low levels of investment, e.g. mangrove snail collecting, and seaweed farming provide opportunities for diversification, particularly for poor households.

Given the high dependence on local informal sources of credit and finance which come, in the main from within the village, the level of investment within the village is limited to the total funds available. Where villages are isolated and poor, the total investment potential from within the community will be very small. Without external sources of finance, either in the form of investment or credit provision, large scale growth of livelihood activities will be limited.

The ARDB research found that many people fund changes in livelihood activities, at least in part, from the savings or assets (such as cattle) which they have accumulated from past livelihood activities

Returns on investment in different sectors vary considerably and within an enterprise can change significantly over time. For example, a change in the available stocks of fish can rapidly result in a decline in income. A downturn in the industry or a major failing/disaster in the family or the business will tend to strongly affect those who have high levels of investment that require regular inputs to maintain. The ownership of fishing boats is often transferred from the operator to the credit provider when illness of the owner, loss of gear, sustained low catches or other major unforeseen adverse events occur.

Factors relating to physical resources

Physical resources are the infrastructure and tools/equipment used to support livelihoods. Of direct importance to artisanal fishing communities and groups will be infrastructure such as harbours and jetties, fish landing areas, gear stores, smoking kilns, and ice plants. Tools for production will include boats, nets, engines, processing equipment, and ice boxes. Less obvious examples will be roads, houses, schools, water supply systems, health clinics, market places and meeting places.

Physical resources are not only a means of expanding livelihood activities they can also be used as collateral for loans and as a means of storing wealth for example in the form of land and houses.

Household physical resources

The ARDB research found that household physical resources varied considerably across income groups. The acquisition of land was a major stimulus for developing household assets such as more permanent houses. Fishing boats and fishing equipment were important resources across many households dependent on fishing activities. Other people had invested in such productive assets as a coffee shop, and cake making or battery recharging equipment. Improved road conditions and a desire to visit local towns has increased the need for local transport prompting investment in a moto taxi.

There is also a high level of loss of physical resources. Some are lost in debt reclamation, others are stolen while conflict with foreign fishing vessels is reported as a major reason for the loss of fishing gear. On the plus side, the damage to fishing gear from such conflicts does, however, create jobs for people in gear repair. In some cases the inability to repair damaged agriculture equipment has caused people to change their livelihood from farming into fishing.

Infrastructural development

Increased investment in infrastructure is often seen by donors and governments as a road to wider development. There can be little doubt that without a certain level of infrastructure, development is likely to be severely constrained. However, the impact of infrastructure development on the livelihoods of the poor can depend on the level and form of access that the poor have to that infrastructure relative to their competitors. Reardon *et al.* (2000) found that better roads and improved infrastructure can increase or limit (through greater competition) participation in rural industrialisation by poorer households. IMM (2003a) found that improved road access to remote fishing villages in India had very mixed effects. Whilst this increased access to outside markets it also increased competition for fish in the villages

and poorer women were often the least able to compete in those situations and became worse off.

The World Bank Group notes that in Cambodia the poor state of infrastructure raises the cost of doing business and limits access to markets; “Cambodia’s indicators for road density, teledensity, electricity generation capacity, and availability of water are among the lowest in the East Asia and Pacific region” (World Bank Group, 2004 p.2). This has resulted in the private sector supplying these services directly without the associated economies of scale but has also opened opportunities for small-scale private operators for example to run battery charging businesses or to distribute water. Over 40% of small rural firms provide their own electricity and 73% provide their own water (World Bank Group, 2004). Overall only 10% Cambodian households are connected to the electricity grid, and road density is about 64% of that in Lao and only 47% of Thailand (World Bank, 2002).

In many countries there is an increasing focus on improving fishery-landing infrastructure to enable investment in larger fishing vessels to access offshore resources. Such facilities provide shelter, improved market access, repair services, a ready availability of labour, and access to ice, water and fuel. In India this has provided opportunities for increased investment in the sector for some but has adversely affected the access which many village traders and processors have to fish supplies. More fish is now landed at the larger sites more often, and those who depend on the smaller landing sites are facing supply difficulties. Some have now moved to larger landing sites but these are not always easy to access, especially for women and older people (IMM, 2003 a and b). With a growing industrial or trawler fleet, this has led to conflicts and competition over access to resources with small-scale fishers, but also provides opportunities for the poor to work as labourers. In the coast in Cambodia, seasonal labouring opportunities on trawlers provide important alternatives during the wet season, when access to fishing grounds by small-scale fishers is limited (Khy An, 2005).

The perishability of fish makes it very vulnerable to transport delays due to poor infrastructure, this is particularly so during the wet season when some roads to fish landing sites become almost impassable. A recent study (AAIEP Newsletter, April 2001) of fish export potential in Cambodia identified limited infrastructure (and post-harvest handling) as the reason for almost 50% of landed freshwater fish being unsuitable for human consumption as fresh fish and for exports of fish earning below international market prices, although there appears to be little evidence for this in 2005. The perishability of fisheries products makes it very difficult to negotiate prices with outside traders and fishers found that they were often subject to the dictates of the market.

Case Study 6 – Hopes for the future

One household in Peam Krasoap consists of a divorced mother and her three daughters. Following her divorce, the head of the household was able to use part of the money she received in settlement of the divorce to buy fishing gear that were operated by her brother-in-law on her behalf. However, after her gear were destroyed by a trawler, she decided to focus her efforts on net-mending, crab peeling and a grocery business. Her village in Peam Krasoap was originally a village built over water but was shifted to land following the institution of a protected area. There are now plans for further infrastructure development in the area that the household head looks forward to: “I hope that our livelihoods will improve when the road is constructed from the town to the commune. This should improve trade. I want to improve my grocery business by increasing the volume of goods that I sell and by selling new products too. I plan to save money from my net mending, snail collecting and livestock businesses so that I can expand my grocery business. There are also plans for a canal to be dug to improve water access to the village. This should make things easier for fishing boats to get into and out of the village and this will also be good for my net-mending work and business in general”.

The ARDB research found that the provision of infrastructure both provides and takes away opportunities for rural people. The development of roads has generated mixed responses and seems to have generally increased people's access to livelihood alternatives especially as labourers in the urban construction trade. Improved roads have also improved access to markets but historic relations with visiting traders and middlemen have limited the direct sale of produce by villagers into the towns. This is changing as village producers see increased opportunities from stepping away from traditional marketing relationships, for example in the mat making businesses and seaweed culture in Kampot Province. The lack of rural electrification is a major obstacle for many people but has created opportunities for small-scale entrepreneurs to start battery charging operations. Likewise the lack of water in some communities has created opportunities for people to sell their labour collecting water from distant wells and selling it from door to door. However, for the population at large, improved access to clean water constitutes an important improvement in their livelihoods and can act as a significant stimulus to livestock and vegetable production. Case Study 6 above illustrates how one household in Peam Krasoap commune in Koh Kong regarded planned infrastructure development as being of primary importance for their livelihoods.

The Danida-funded, Ministry of Environment-implemented, CZM project has also introduced new technologies associated with integrated farming practices which have also stimulated new agricultural innovations (Ouk Lykhim, pers comm. 2005).

There is also some flow of physical resources within and between households in communities for example the waste stems of banana plants are used as a pig food supplement, as is waste food from other houses and restaurants.

10.3 INFLUENCING FACTORS THAT CAN BE AFFECTED

Influencing factors that can be affected include those related to wider society, those relating to the interaction between government and rural industrialisation, linkages with the private sector and the involvement of civil society.

Factors relating to wider society

There are many factors associated with wider society (by wider society we are referring to society throughout a particular country rather than a localised area such as the coast) that determine access to employment opportunities and livelihood choices. The form and operation of countries today owe much to their historic evolution that has affected their culture, religion, ethnicity, social organisation, politics, class structure, age composition and gender relations. All of these, in turn, can affect economic development.

Culture and ethnicity

Yoshihara Kunio (2000) discusses the importance of culture in a range of factors that can influence economic growth. For instance, attitudes to education, work ethics, leisure, law and order, and the environment are highly variable throughout Asia and have all influenced the ways in which economic development has taken place in the region. Attitudes towards education can strongly influence the way it is valued, this will be important when household choices have to be made between involving children in business or household activities versus their attendance at school.

Ethnicity is a reflection of cultural differences, which often manifests itself as differences in norms and values amongst specific groups within countries. These ethnic differences can have both pronounced and subtle effects on the ability of people to engage in livelihood change. In India the caste system can allow and constrain different groups from taking up different forms of employment. Dasgupter *et al.* (2004) note that social barriers in India inhibit the use of locally available, lower caste, labour in food production. Many of the fishers in both India and Bangladesh are from lower castes and this often defines who these people are and what they are able to do in terms of expanding their livelihood options.

In Cambodia there are divisions in the economy which are linked to ethnicity as mentioned above. Ethnic sub-sets of economic behaviour may start as cultural differences but may end up conveying a wide range of skill and financial advantages which perpetuate those differences, for example many of the Chinese and Vietnamese in Cambodia have historically been involved in much of the trade, which advantages them in this sector even today.

Attitudes towards work and leisure also differ. Max Weber attributed the success of capitalism in Western Europe to the rise of Protestantism and its effects on work attitudes (Weber, 1905). Religious beliefs may also influence, amongst other things, the emphasis which people place on benefits now versus benefits later. Throughout southeast Asia there are different attitudes towards the amount and form of work that is considered appropriate and these affect the operations and productivity of different businesses. Given the diversity of religions in Asia and the differences in their underlying philosophies it would not be surprising that these had influenced economic development and the responses of households to the opportunities that are available to them. Yoshihara Kunio (2000), for example, argues that Confucianism, with its emphasis on education, planning for the future and lack of emphasis on life after death has encouraged a considerable emphasis amongst its adherents on industriousness in this life rather than focussing on the next.

The ARDB research found that few people had a strong culture-based attachment to fishing. People were involved in fishing because of the opportunities that this occupation gave rather than any deep attachment to it as a way of life. The Cham community studied in the research did have a longer-term cultural identification with fishing as a profession but this does not seem to constitute a major barrier to members of the community seeking alternative forms of livelihood activity. As regards work ethic, there seems no lack of willingness to take up new work opportunities that emerge only the lack of resources to ensure that these succeed.

Conflicts and security

Colonial involvement and war in the area has influenced, amongst other things, the geographical boundaries of States. These in turn affect access to natural resources, communication networks, who people are governed by and so has shaped development opportunities. Post-colonial conflict in the region, especially the Vietnam War, has had a major effect on relationships both within the region and with the wider world providing some countries with lesser or greater access to international markets.

The security situation in recent years in Cambodia has further affected the evolution of the private sector and the institutions in government that might support the development of that private sector. The World Bank Group (2004) notes that a consequence of the post-conflict situation in Cambodia is that the human and financial resources in the public sector are overstretched. This is reflected in the lack of adherence to the rule of law in many situations and this imposes high transaction costs on businesses. In a survey of industries in Cambodia, conducted for the World Bank, corruption was identified as the leading constraint to operation and growth (World Bank Group, 2004). Bribery of officials in order to get work done in business was seen as a major obstacle and the share of revenue consumed by unofficial payments was more than double that found in a parallel survey in Bangladesh, Pakistan or China. The level of bribery involved is related to business size and perceived profitability with larger businesses in the formal sector paying a higher percentage of sales. This in turn inhibits business growth and keeps many companies operating in the informal sector. In addition the confidence of business in the judiciary is reported to be very low and this undermines confidence in the value of commercial rights and contracts that underpin so much of the business world (World Bank Group, 2004).

The ARDB research found the security issue has certainly been of considerable importance in shaping people's choices regarding livelihoods in the past and the general improvement in the security situation over the last decade has created numerous new opportunities for people. For example, in Kampong Samreung commune in Kampot province, the advent of improved

security has led people to progressively make better use of the full range of natural resources available to them, particularly sugar palm plantations, whereas previously many of these resources were left un- or under-utilised due to insecurity. Some people mentioned that fishing gear was stolen but there seemed to be a high level of trust and cooperation within villages. The past security situation had resulted in a depopulation of the coast and the improved national security was cited as a reason for people moving into coastal areas.

An increasing area of conflict relates to access to fishery resources and the enforcement of fishery regulations. These are discussed below.

Attitudes to the rule of law

Attitudes towards law and order are very important to livelihood change and economic development. A key role of government is to define acceptable behaviour standards, to ensure compliance with those standards and to respond to those who violate them. Without the existence and adherence to such standards there are additional levels of risks involved in participating in the economy and such risks raise the transaction costs of all enterprises.

Of particular importance to households in primary industry such as agriculture, fisheries and forestry is that of property rights. In Cambodia many people lack formal rights to the land they cultivate; access rights to inland fish resources outside of the lot system is unclear and disputed because the legal and institutional framework has moved much slower than the policy reforms; and access rights to large areas of forest are in dispute between logging concession holders and local people. The access rights to land are often uncertain and many people report a lack of clarity on ownership of land. For many people this is because they are merely occupying land they have no title over. Where there are strong private interests, these can marginalize the poor and their access rights. But whatever the reason, a lack of secure tenure means that the desire to invest in the sustainable use of the resource is diminished and the benefits are less likely to be sustainable.

Likewise access rights to the fisheries resources of the coast of Cambodia are not well enforced and trawlers, many of which are reported to be foreign owned, fish inside the trawler exclusion zone along the coast. This lack of enforcement of access rights means that, in effect, the resources become open access and the discount rates applied to the resource rise very quickly with the result that there is very little incentive to act in ways that will ensure sustainable use of the resource. The results are all too often over-capitalisation of the fishery, over-exploitation of the resource, declining catch per unit effort and falling return on investment and labour. This ultimately leads to fishing operations being unprofitable and the value of the capital invested falling rapidly as the second-hand market for fishing vessels dries up. The discount rates adopted by resource users become very high and sustainability becomes a lost opportunity, often encouraging short term but destructive extraction regimes, e.g. destructive electro-fishing in Cambodia.

Case Study 7 : Living with the law in Koh Kong

One household in Peam Krasoap commune, Koh Kong, had moved to the area in 1993 from Prey Veng in the recommendation of a relative who was already living there. As soon as the family arrived, the head of the household started working for a charcoal producer cutting mangroves for his charcoal kiln. After working hard with his son, they were able to buy their own charcoal kiln in 1999. However, very soon after this, new environmental regulations were introduced banning mangrove harvesting and forcing the family to look for alternatives. Because the household already owned a boat that they had used for transporting mangrove wood, fishing seemed to be a logical alternative. The household head purchased crab traps and gillnets and now fishes almost all-year-round. His 3 older sons either work with him on their boat or work for others as fishing labourers. Generally they feel that their livelihoods have probably improved as a result of their shift to fishing, even though it was forced upon them.

Also linked to law and order is the influence which corruption has on access to markets and

the constraint it places on development opportunities. In Cambodia localised monopolies on trade and market access bar many poor producers and processors from obtaining a reasonable return on their labour and investment. In addition, informal taxes on the movement of goods around the country and across borders not only reduces fiscal revenue but also makes the marketing of products very expensive and time consuming. In addition, the records of such transactions are either inaccurate or non-existent and so government has little solid evidence upon which to effectively plan and thus to help the development of livelihood options that might result from such trade.

The ARDB research found that a lack of adherence to the rule of law was both a benefit and a disadvantage for many people. There is growing conflict from the influx of trawlers operating in inshore waters and it was felt that the regulations enforcing inshore resource restrictions were not well policed. This was reported to be increasing pressure on the fishing resources and reducing opportunities for the coastal people. Where co-management had been introduced this could also lead to a loss of opportunities in the short-term for those who are excluded from the fishery.

There is clear evidence that people regularly circumvent the law in one way or another. In Koh Kong Province it was found that some of those leaving the fishery entered bivalve culture and the demand for wooden poles increased creating an additional opportunity. However, a ban on cutting mangrove in some locations forced pole cutters to move further a field. For those who were prepared to break the law there was less competition for poles in the protected areas. People reported that they were easily able to pay officials in order to gain access to protected areas to harvest the poles they need. In other cases, people are subject to additional costs as a result of corruption. Respondents from one commune in Kampot mentioned that they have to bribe customs officials in order to be able to export their seaweed to Vietnam.

However, overall it was interesting to note how much enforcement of different regulations respondents reported and the extent to which people observe regulations and make changes to their livelihood activities in response to those regulations. Particularly in Koh Kong province, restrictions on access to mangrove areas seem to have been largely observed – the example mentioned above seemed to be something of an exception – and have forced people to make significant changes in their livelihood strategies in response. Indeed, the mangrove snail population is reported to have increased in protected area and increased opportunities for women snail collectors. However, in some cases, the positive impacts of improved protection of mangroves may have had negative impacts in terms of pressure on fisheries resources, as many ex-mangrove cutters and charcoal makers have now moved into fishing activities. In other cases, effective support from local institutions, such as the SEILA programme, the CZM project and the PMCR project seem to have provided people with possible alternatives.

Social organisation

Social organisation and cohesion can also affect levels of trust, collaborative action, and patronage all of which can impact upon the ways in which people organise their economic activities, compete or cooperate with each other or gain support from linkages within the system. Without trust in business the cost of exchange becomes very high and credit interest rates often reflect this. Without collaboration, opportunities for scale economies are reduced and mutual support as a safety mechanism becomes difficult.

These wider institutions (in the sense of rules and norms rather than organisational structures) are vital parts of what makes society work and enterprise function effectively. Without them the transaction costs which business face are very high. In the absence of effective government institutions there is much pressure placed on the effective development and operation of informal institutions.

The ARDB research found adherence to social norms high in the villages visited as outlined

above under the social resources section. There was less evidence of strong social bonds and systems operating between villages in different locations except in situations where people had recently migrated and retained strong relations with people in the areas from which they had come.

Age

Abdulai and Delgado (1999) identified a significant link between age and the likelihood of engaging in the rural non-farm economy in Ghana. They found that probability of engaging in the rural non-farm economy increased with age up to the age of 33 for men and 30 for women, after this it declined. Rigg (1998) notes that the shift within Southeast Asian communities towards livelihood strategies that avoid agriculture tends to be generational with the younger people tending to enter non-farm activities and the older ones staying with the land. Rigg raises the important question of whether these young occupational migrants are pushed out of agriculture by their lack of skills and experience or pulled into new jobs by better wages and prospects.

Age structure of societies varies considerably and this has an impact on dependency ratios, recruitment into the labour force and the supply and demand for labour. In Cambodia, for both demographic and political reasons, the number of older people in society is very low and the number of young is very high (55% of the population is under the age of 20). This creates a growing pressure on the economy for a rapid expansion of economic activity to generate employment and income for these work force recruits. In the absence of secondary and tertiary industry growth, increasing pressure is being applied to natural resource exploitation where property rights are unclear or not enforced, and where other barriers to entry are low.

The ARDB research found that population pressure on natural resources was increasing and was becoming a major push factor for livelihood change. This reflects the number of young people who are now entering the workforce and the decline in opportunities in traditional primary industries such as forest cutting, fishing and agriculture.

To an extent the research also found that the diversity and outcomes of household livelihood strategies are linked to the age of household members and the size of the household. There appears to be a life cycle in a household's livelihood strategy. Young adults tend to focus on active work such as fishing, pole cutting, seaweed farming and labouring. Where they live with parents, these may be part of broader and more diverse livelihood strategies for the household as a whole. Where they live separately, perhaps with young children, their opportunities for diversity, and their livelihood outcomes, are often more limited. As people get older they, individually, move away from activities such as fishing towards more sedentary livelihood activities such as fruit tree growing, rice milling, alcohol production, pig rearing, and vegetable production while more active work is taken over by grown-up children and the opportunities for household livelihood diversification increases. Large households are generally viewed as an asset. They provide greater security for the old, they offer the opportunity for wider diversification and thus reduce risk, and they allow labour to be switched between activities when required. The drawbacks of large households are also understood, but they seem to be regarded as less significant than the advantages offered by having a larger pool of labour and skills.

Considerations related to age are also important in shaping people's long-term plans for their livelihoods. The example in Case Study 8 shows how awareness of changing needs and capacities in the future is shaping the livelihood choices of one household from Koh Touch in Kampot province.

Case Study 8 : Planning for the future in Koh Touch

The introduction of seaweed farming in Koh Touch has created important new opportunities for households in the community and generally is having important positive impacts on people's livelihoods. One relatively poor household has been involved in seaweed farming since 2003 and has already experienced an important improvement in their livelihood. After borrowing the materials needed to start the activity and learning the skills from neighbours, they have been able to steadily improve the activity, purchasing a boat for reaching their farm area and paying back the loans they took out to start the activity. However, the head of the household, who is now 51 years old, is already thinking of the future and is considering what sort of activity might provide him and his household with the best long-term guarantees. This has led him to start saving money from his seaweed farming to purchase livestock. This would enable him to participate productively in supporting the household even when he has become too old to go out to maintain and collect seaweed on the farm.

Gender

Attitudes to gender also affect economic development although there are major differences in those effects across cultures, economies and countries. In almost all cultures the role of child-rearing falls disproportionately on the shoulders of women and this clearly affects the options available to women of child-bearing age. This does not mean they are excluded from diversified livelihood options, but they may need to focus more on activities that are home-based. Dasgupta *et al.* (2004) note that in rural towns in India the secondary and tertiary industries are dominated by men. Of the many businesses surveyed, they only found one which was owned by a woman. They noted that amongst tribal people in India there was a greater involvement of men in the rural non-farm economy than women. They also found a class distinction where in wealthier households women rarely if ever engaged in business whereas in poorer households it was much more common. In Ghana and Uganda the involvement in non-farm activities was found to be greater by women than men and women are much more likely to lead the way in non-farm rural diversification (Newman and Canagarajah, 2000). In Sri Lanka, as in many other places, the expansion of the garment factories have generated opportunities mainly for women. In Ghana much of the processing and trade of fish is so successfully controlled by women that they often exert a major influence over investment in the fish harvesting sub-sector. In India the majority of the trading and processing of fish has been a female dominated industry but this is changing as technology, investment, market penetration, and declining labour demand change gender balances (IMM, 2003b). In Kenya it is the women from livestock herder communities who dominate milk sales (Smith *et al.*, 2001). NRI (2000) notes that being female may be a barrier to entry to secondary and tertiary industries and that women may become more marginalized if they are more constrained than men in their access to non-farm opportunities. Religious barriers to women's involvement in commercial activities away from the home may also be a significant factor in some communities.

Women in Cambodia have historically been regarded as of lower social status than men, have less access to education, are poorer (especially female household heads), have poorer health, and are less represented in decision-making processes (ADB, 1998). That female household heads make up such a high proportion of the population in Cambodia puts them in a very vulnerable position. Women generally have less occupational and geographical mobility than men and this often limits their ability to enter new economic activities. Sarthi Acharya *et al.* (2003) note that there are more male workers (27.33% of the people surveyed) in the rural non-farm sector in Cambodia than women (17.6%). However, the garment industry has provided a new economic opportunity for them here as it has elsewhere. Likewise, in India and in Cambodia the dexterity of women is reported to be a factor in their preferential recruitment into the shrimp and crab peeling industry. Sarthi Acharya *et al.* (2003b) note a gender clustering in Cambodia of women around food processing, apparel industries and retailing while men are focussed on fishing, transport, public administration and heavy

labouring jobs.

The ARDB research found considerable gender differentiation in livelihood strategies. Within households, men and women play distinct roles in livelihood diversification and in the development of household livelihood strategies. Men tend to engage in active fishing at sea and women are more involved in harvesting resources from the land such as mangrove snails or in processing of aquatic resources (crab peeling requires dexterity usually attributed to women). Young women increasingly take work outside the household (as servants or factory workers in urban areas) to support the household. At marriage the husband or wife move to the community of their spouse and so are affected by the livelihood opportunities there. Men and women often occupy different livelihood activities but they may be linked e.g. the man may be a fisherman and the woman a crab peeler or snail collector. Women's involvement in labour such as child rearing and care for the elderly clearly affects their capacity to contribute to other household livelihood activities.

In many cases women are the household head which places an additional burden on them. Not surprisingly, women who are heads of household, often find themselves particularly reliant on social resources in order to secure a livelihood for themselves and their families. The case of a female-headed household in Koh Kong Province in Case Study 9 illustrates this.

Case Study 9 : Raising a family alone in Chrouy Pros

The head of this household is a widow who lost her husband in 1998 when they were living in Sihanoukville. She then moved to Chrouy Pros with her disabled daughter because she had an uncle in the military who was stationed there. When the uncle decided to return to Sihanoukville, she decided to stay on as by that time she had a house and had found work peeling crabs and collecting mangrove snails. She has been able to establish a good relationship with the crab trader, partly because of her skills as a crab peeler and partly because she is regarded as reliable. This means that she can count on the trader for employment and for loans when she needs them. Crab fishers in the community are also supportive because they recognise the difficulty of bringing up a disabled daughter by herself and they help her by bringing her crab to peel whenever possible. Despite this supportive environment in the community, life is hard particular during the rainy season when crab supplies are less abundant and she has to rely on collecting and selling mangrove snail, which are in increasingly short supply.

The decision making roles of men and women are less clear but it was generally the case that women played a smaller role in decision making in the household irrespective of how important their livelihood activities were. There also seemed to be a tendency for greater equality in decision making the poorer the household.

Factors relating to government

Politics and the form of government can have a major impact on the business environment in which rural households operate, it can also affect the historic evolution of the country's culture.

Economic policies

Economic policies are often influenced by historic allegiances and influences (see Box 5) but as more contemporary policies change they also have significant influences.

Box 5 :Colonial influences

The colonial influences in the region have affected language, human development, infrastructure, institutional organisation, political development, regional alliances and global linkages. Where natural resources were available for exploitation for use in colonial markets, investments were made in the extraction and export of these. Cambodia lacked much of the resources available in other countries in Southeast Asia and was of less interest to outside business interests (Sarathi Acharya *et al.*, 2003b).

As a consequence of this colonial activity much of the large-scale export industry in southeast Asia was dominated by foreign companies at the time of independence (Yoshihara Kunio, 2000). It has taken many countries a long time to replace these with indigenous businesses and, in countries with centrally planned economies, many of the replacement businesses were state-owned and run. This was not the case in Thailand, which remained politically independent, and consequently had a more continuous domestic business environment, and a more even and more market-based commercial evolution.

These colonial influences have established institutions, markets and infrastructure which can be important for the development of livelihood opportunities for the rural poor.

Widespread economic liberalisation policies have undoubtedly had major effects on the rural industrialisation process and opportunities for households to diversify but the results have been mixed. For some, liberalisation has been very beneficial while in other situations “rapid exposure to external competition has simply steamrollered the poor” (Haggblade *et al.*, 2002). The garment industry in Cambodia, as with many places, is subject to changes in international policy and agreements. The potential loss of much of the garment industry to China is an ongoing concern. Within the fisheries sector liberalised import policies and/or lack of enforcement of restrictions has contributed to a growth in the importation of fisheries products in recent years. As Dasgupta *et al.* (2004) have said in relation to India, a growth in imported goods can undermine the competitiveness of village level production. In the field research implemented by the Department of Fisheries under the DFID-funded PHFRP it was found that imports of processed products were seen by many processors as a significant threat to their livelihoods. Poor consumers, however, felt that imports of cheap unprocessed fish was a positive change (CFDO staff *pers. com.*, 2005).

As recently as 1989 in Cambodia, all enterprises were state-owned, prices were controlled and economic planning was centralised (World Bank Group, 2004). In the mid 1990s the climate for foreign investment was liberalised as a result of the passage of the Law on Investment. Improvements in the investment climate in the country have now taken place including the establishment of the Government-Private Sector Forum and its associated working groups on: 1) Banking and Finance; 2) Export Processing and Trade Facilitation; 3) Manufacturing and SMEs; 4) Energy and Infrastructure; 5) Agriculture and Agribusiness; 6) Tax, Law and Good Governance; and 7) Tourism (World Bank Group, 2004).

Legislation in support of policy change can also marginalize the poor from livelihood opportunities/activities. Legislation to improve working-conditions may push up costs, depriving the poor of employment and pushing market share towards larger companies (NRI, 2000). In Bangladesh and India legislative changes to protect juvenile fish species from over-exploitation using inappropriate fishing gear have criminalized the livelihoods of poor shrimp seed collectors (IMM, 2003c)

One of the key elements which acts as a barrier to rural development is the bias towards urban growth. Lanjouw (1999) says that in most developing countries the non-farm sector in rural areas faces a general policy environment that is biased against it. Within Cambodia the

majority of growth is currently taking place in urban areas and the policy bias towards the wealthier segments in society is becoming more apparent, leaving the poor and rural households with few choices outside natural resource dependency.

Policies also favour those in the larger, more formal areas of the economy. Capital for investment is directed much more towards the formal sector because it is easier to manage and to control repayments. Export promotions policies, whilst claiming to be poverty focussed, all too often create opportunities that the poor are unable, or poorly suited, to take up.

The ARDB research found that government policies and the way in which they are implemented do have important effects and impacts on people's livelihoods. In the coast, this has often been manifested through measures to protect and conserve coastal resources. For example the ban on logging has reduced the need for water-based transport of timber and loggers in Koh Kong Province; enforcement of mangrove cutting restrictions has reduced charcoal-making opportunities; positive support for inward migration in Koh Kong Province has created livelihood opportunities for many people, and mangrove conservation has increased the availability of mangrove snails for women to harvest. Limited enforcement of fisheries regulations in particular is regarded as having had a negative effect on fishing. Fisheries co-management regulations have in some cases pushed people into new activities such as oyster and mussel farming. But, as mentioned above, some of the negative changes have, in turn, increased the demand for other goods and services and have created new opportunities.

In some cases there has been cross sector policy conflicts where a policy in one sector has negative effects in another. For example an increase in the enforcement of forestry regulations has reduced opportunities in that sector and pushed more people into the fisheries sector creating increased conflict and competition between fishers. These conflicts raise the transaction costs of rural livelihood activities and make them unattractive to marginal operators. The emergence of commune councils in villages have facilitated access to government which has allowed problems to be raised and solved.

Corruption and bureaucracy

The World Bank Group (2004) note that one of the key factors limiting productivity in Cambodia is the very high level of corruption faced by the business sector. Businesses are also subject to much higher levels of inspection from the authorities than many of their competitors. Governance issues were found to be so acute as to overwhelm more visible deficiencies such as finance, infrastructure, and human capital/skills. They also note that agro-industries in particular do not benefit from trade-supporting institutions. This results in the majority of secondary producers in this area being small, informal, and only able to serve local markets and middlemen.

A major constraint facing all businesses in Cambodia is the bureaucracy involved in the import and exports of goods. The World Bank Group (2004) notes the diversity of overlapping and unclear responsibilities of different government agencies, the need for repeat visits to departments for approvals, the delays and the complexity and amount of paperwork involved. These procedures are largely irrelevant to the functions of the agencies concerned but add substantial cost to the transactions they purport to regulate. Likewise, in the fish trade in Cambodia, especially concerned with imports and exports, there is a wide diversity of agencies involved and a lack of clarity in their roles and responsibilities, again this adds to the transaction costs of small businesses and limits the viability of livelihood change options.

The ARDB research did pick up some complaints regarding informal taxation by government officials but this seemed to work in both positive and negative ways. For example, government officials who ignored timber cutting violations in protected forest provided (albeit illegal) opportunities for people to expand their livelihood activities in these areas.

However, officials who charged fees for allowing people to do what they already had every right to do created a financial constraint on livelihood change.

Global and regional linkages

At the international level, agreements between Cambodia and its trading partners affect the potential for rural industrial growth. As noted above the preferential access which Cambodia has to foreign markets for textiles has recently changed and this will have profound effects on the garment industry. The Early Harvest programme with China offers ASEAN countries tariff free access to China's markets. This agreement covers the export of fish and provides potential opportunities for small-scale producers to access regional markets.

The ARDB research found that the linkages which coastal people have with adjacent countries are important for all sorts of reasons. These include trade for both input supplies (for example mat making materials in Kampot), outputs sales (for example fish and seaweed), access to better education facilities, cheaper fuel purchases, knowledge about new fishing skills, and access to labour markets. Such regional linkages are very important to many of the households involved in the research and are likely to increase in the future as demand for such goods and services increases.

Rural industrialisation support

Rural industrialisation is often seen as an important broad rural development objective. In some countries rural industrialisation is considered important but the institutional structures and processes are not there to enable it to occur beyond the provision of basic infrastructure. The cross-sectoral nature of rural industrialisation means that it often falls between sectors (see Box 6) and receives support in the form of policy statements but little in terms of policy instruments such as funding, staffing etc. Sector specific approaches are often limited by the lack of skill and knowledge of the people given the responsibility to manage those sectors. Fisheries and forestry departments are often staffed by people who have received a narrow sectoral training; they may know much about fish and trees but little about the livelihoods of the people who depend upon those resources. However, in many parts of the world the development of alternative livelihoods is seen as an important way of drawing people away from degraded or protected resources (Campbell *et al.*, in press). This is particularly true in the case of coastal environmental protection where many efforts to establish marine protected areas are accompanied by measures to develop alternative livelihoods for coastal people.

More targeted approaches that focus on the provision of business development services are becoming more widespread but still tend to be supply driven. The provision of support for small and medium sized enterprise (SME) development in the Southeast Asian region has generally been problematic (Choompon Asasen and Kanchana Asasen, 2003). However, there is growing enthusiasm for this and ASEAN has declared a decade of SME Development between 2004-2014. At the regional level the Mekong Private Sector Development Facility (MPDF) was established in 1997 with the mandate to support the development of private sector enterprises in Cambodia, Lao and Vietnam (Sarathi Acharya *et al.*, 2003b). The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) programme on Advisory Assistance to Industry for Export Promotion (AAIEP) based in Bangkok has been involved in business potential assessment in specific sectors including the fisheries sector in Cambodia and has identified fish export as a key area for potential. AAIEP has also been involved in supporting business development capacity in the region.

Box 6 : Livelihood diversification, the stepchild of government.

At the national level support for rural livelihood change confronts an important set of problems. Because of the sectoral diversity of the rural industrialisation process there is frequently a lack of ministerial responsibility for its development. Where the required intervention falls across several ministries weaknesses in interagency coordination limited collaborative approaches to deal with the issues. As Haggblade *et al.* have noted, rural economic development in secondary and tertiary industries "...has largely remained the stepchild of government, donor and NGO promotional efforts" (2002, p. v).

An early initiative was the Cambodian Rehabilitation and Resettlement Programme (CARERE) which started in 1995 and had a focus, in part, on enterprise development. Following its termination in 2000, CARERE gave rise to the NGO Enterprise Development of Cambodia or EDC (Sarthi Acharya *et al.*, 2003b). Recently MPDF identified over 50 donor funded initiatives in Cambodia aimed at private sector development. These vary from structural approaches such as the DANIDA support to natural resource and environmental management to more specific areas such as the EU's support to the development of handicrafts for export. Training for enterprise development and technical skills is also provided by a range of technical schools, some government and others NGO based.

Poverty-focussed initiatives are less well developed. For many of the poor, the opportunities created by wider development interventions, such as sectorally-focussed and targeted measures are inaccessible. The poor often exclude themselves from development initiatives because they lack the time, funds, skills or social organisation to participate (IMM, 2003c). Unless the poor are given the support to compete effectively with better-off, more educated, more influential members of society, then creating opportunities for growth will be of little benefit to them. These opportunities will be quickly appropriated by the better off. Lessons can be learnt from post-disaster rehabilitation where poverty-focussed initiatives have been shown to work. Food-for-work and labour-intensive infrastructure development programmes focussed on the poor have provided wage-labour opportunities in the short-term (IMM, 2001) which the poor have taken up.

The ARDB research found reference to a limited number of government and NGO initiatives in the coast that are trying to develop opportunities for livelihood change. In the main these are taking a multi-disciplinary and multi-directional approach to the needs of the rural poor that forge important links across government, private sector and civil society institutions. These linkages tend to be flexible and output oriented. A good example is the Danida-funded, Ministry of Environment-implemented CZM project which has forged links across a range of institutions and tried to address the needs of communities in participatory ways and aligning with decentralisation processes.

Several respondents described situations in which they have been able to draw on support of one sort or another from several different sources and use this to enhance their livelihoods. This is particularly worthy of note as there is often an attitude among donors that "beneficiaries" should not be "shared" among different supporting agencies. In reality, looked at from a more market-oriented point of view, the availability of a variety of supporting institutions providing different sorts of support is probably desirable. It provides people with a choice regarding the sorts of support they need and the terms under which they can access such support and it ensures that different aspects of their capacity to create effective livelihoods can be supported by different agencies.

The cases described in Case Study 10 illustrate the sorts of effective support provided to households in the villages covered by the ARDB research.

Case Study 10 : Supporting livelihood enhancement in Peam Krasoap

In one household of migrants from Prey Veng living in Peam Krasoap commune in Koh Kong, the divorced woman who is the head of the household has been able to draw on a diverse range of sources for support in enhancing her livelihood. Initially, she obtained some capital from her husband at the time of their divorce. This she invested in fishing equipment for her brother-in-law to use. She has supplemented this income with her own activities of net-mending, crab peeling and selling fried bananas. When the original village of Peam Krasoap was moved from the newly-created protected area to a dryland site, she used her savings as well as some additional funds from her ex-husband to diversify into small trading, noodle making, vegetable farming and livestock raising. She hopes to benefit from planned improvements to access and infrastructure in the new village. At the same time one of her daughters is receiving literacy training from a CARE (NGO) project and hopes to become a village recorder.

In the same village, the male head of another household has been supported by the CZM programme which has provided pigs and training in livestock rearing. This has helped the family to make the transition from being dependent on fishing for their livelihoods to having a more diverse livelihood where farming and livestock raising is combined with running a moto-taxi business (started up by selling his fishing equipment) and a grocery business run by his wife. With CZM support and a possible loan from ACLEDA (made possible by the land-title received when the village was shifted) he hopes to start an aquaculture activity and to improve his livestock raising.

In these cases, several key elements can be seen that have supported people in enhancing their livelihoods. For the widow, legal support that enabled her to obtain adequate compensation following her divorce was important. In both cases, a supportive institutional environment, involving both government agencies, projects and NGOs, has provided training, key physical, human and financial resources and access to land title. This complex support has made the process of shifting an entire community apparently very positive for at least some of the community members involved.

Examples such as that shown above from Peam Krasoap in Koh Kong are apparently exceptional – the community in question received particular attention from institutions because it was located in a proposed protected area. However, the experience of respondents in this community shows how appropriate institutional support can be effective in helping households to diversify, enhance and change their livelihoods.

Decentralisation

Decentralisation approaches are often thought of as inherently democratic and pro-poor. These are often among the motives for establishing such mechanisms but the outcomes do not always reflect these aspirations. Decentralised planning is often seen as the process by which the needs and aspirations of the people at the grass-roots can manifest themselves in local development strategies. Such mechanisms are, however, fraught with difficulties. Often the responsibility for delivering local development is transferred to local institutions without the corresponding financial resources and authority. Often these local institutions lack the skills, knowledge, attitudes and experience to take on the roles assigned to them. Even when they do there is no guarantee that they will be any less corrupt and elitist than their counterparts in central government. The situation of the poor would-be entrepreneur may also be worsened if fiscal decentralisation results in new businesses licenses and taxes (Dasgupta *et al.*, 2004).

In the situation in Cambodia many of these obstacles have been foreseen and appropriate mechanisms put in place to address them. The government and donor community are committed to a successful decentralisation process which is participatory, involves local planning of development priorities and includes the responsibility for local natural resource

and environmental management backed by a transfer of skills and funds from the centre to the periphery. This still has a long way to go before it is fully operational and there are many problems which this processes faces (Rusten *et al.*, 2004).

The ARDB research involved the commune councils in the research process through various consultation and validation stages. It was reassuring to see the extent to which they were interested in the research and the processes of livelihood change that were operating locally. People in the villages also felt that the communes now had greater opportunities to represent their needs and aspirations to a higher audience and to resolve problems that people face locally. People's attitudes to the new commune councils in the areas studied are generally positive, even in the face of the extremely limited resources generally available to them for local development. However, commune councils are limited in their skills and knowledge and will continue to require outside support for some time if localised planning for development is to be more sophisticated than a focus on local infrastructural development.

Factors relating to the private sector

Barriers to entry and exit

Successful livelihood diversification is very much dependent on there being demand for the goods and services that those livelihood strategies generate. However, the availability and form of demand is not always taken into consideration when moving into new livelihood activities. Dasgupter *et al.* (2004) found that in India enterprise formation was very high in the overcrowded retail and petty-trade business sectors where profits were falling. This was simply because the barriers to entry and exit were low. A key element of demand is the ability and willingness to pay for the goods and services produced and the levels of competition among suppliers.

In Cambodia the differences of wealth between the rural and urban communities combined with the gradual shift in urban demands away from the sorts of products that the rural poor can supply suggests that, unless rural livelihoods develop quickly in the direction of rural industrialisation, then rural supplies (beyond basic food supplies) will become more irrelevant to urban markets. This applies equally to both rural labour and to rural products. Rural labour is in danger of being seen as less sophisticated than in urban labour and thus in less demand.

The ARDB research found that when opportunities are created there is no shortage of people willing to take them up. In the main the barriers to entry for them were vocational skills and finance to fund capital investments. Legislation and its enforcement were also important barriers stopping people from entering illegal livelihood activities and, as discussed above, age and gender are also important barriers. However, in the main barriers to entry and exit were surmountable at the household level, if not always at the individual level. In addition, there seems to be, at least in the communes covered by the research, a considerable capacity to mobilise support within the community, from relatives, friends and neighbours in order to overcome barriers to livelihood diversification and change. However, rather than these barriers, it is the general lack of opportunities that seems to be a greater barrier to livelihood change.

Growth engines

Countries typically evolve historically through a process starting with natural resource exploitation, mainly for subsistence, followed by greater market integration as technologies for production increases emerge, populations increase and market access increases. As agriculture expands it generates surpluses which stimulate the demand for secondary goods and services which in turn gives rise to rural industrial growth and specialisation (Haggblade *et al.*, 2002). The driving role of natural resources in this process is very important and, in many countries where rural industrialisation has yet to take off on a large scale, the potential role of natural resources needs to be carefully considered. Yoshihara Kunio (2000) goes as far as to link the availability of natural resources for food in northeast Asia over a much shorter

growing and harvesting season than in southeast Asia, with the differences in attitude between the people in the regions to working natural resources and to saving resources for the future.

Agriculture is not the only natural resource-based activity to generate surpluses which can be used as key engines of rural growth. Other activities, such as agricultural/fisheries productivity improvements, oil and mineral extraction, tourism, and export market-oriented activities, are also important. Growth in such sectors often requires increased specialisation of those involved and the need to outsource goods and services that were previously produced within that rural community or group of households. It is this outsourcing from other households which provides much of the growth for rural industrialisation and provides many opportunities for people to diversify their livelihoods. However, in Cambodia agricultural productivity is not increasing fast enough to generate major rural surpluses and fisheries production has stagnated or declined recently.

The linkages between domestic economic growth, and regional and global trade are also important. Whilst exports either from the country or the immediate region are often a major growth engine of local economies, the products and services from rural secondary and tertiary industries tend to be traded within the country or region (Haggblade *et al.*, 2002). In the Cambodia situation, regional trade linkages are already important to growth and diversification. The border town of Koh Kong exhibits a wide diversity of economic activities fuelled, in part, by its proximity to Thailand. Similarly, in Kampot, proximity to Vietnam provides a diversity of opportunities for trade. Both Thailand and Vietnam have embraced global market penetration as a dominant strategy for growth, more so that Cambodia has (World Bank Group, 2004).

Other sources of surplus come from a growing tourist industry but this has shown significant variability recently and from the garment industry which is under considerable threat from wider trade-related changes.

The ARDB research found that access to land and to regional markets seem to be important growth poles rather than agriculture itself. Access to secure title over land provides opportunities for agriculture but it also provides opportunities for borrowing money to invest in a range of growth activities. These may be linked to the land, such as establishing a shop or growing pigs, or they may not, such as in the case of investing in a moto taxi or a fishing boat.

Regional markets for labour and products at higher prices than are available locally also has the potential to generate local surpluses which might stimulate increased diversification into manufacturing and services. The expansion of the seaweed culture business in Kampot provides an interesting illustration of how knowledge, finance and market access introduced from outside has generated considerable influx of cash into the associated communities.

Fisheries still hold the potential to be important growth poles even though there appears to be declining individual catch rates. The growing global demand for seafood offers the opportunity for well managed resources where local people have preferential access to sustainable resource exploitation to provide a major source of cash in the community to stimulate other activities.

Large firm linkages

There can also be significant linkages between small firms and large firms. Haggblade *et al.* (2002) provide a wide array of examples of large firm/small firm linkages e.g. large chicken hatcheries in Bangladesh supplying chicks to small farmers, or rattan furniture produced by large firms in Indonesia being sold by itinerant traders.

These large firms can be very significant in stimulating the development of smaller non-farm activities. Agribusiness firms are an important case as they frequently locate their factories in rural areas close to their supplies (Haggblade *et al.*, 2002). In Cambodia this is demonstrated

by the shrimp processing industry and the fishmeal industry. Large-scale shrimp export from Cambodia has provided opportunities for gangs of small-scale shrimp peelers to work with big industry although in India the health and hygiene export requirements have made involvement by the poor peelers difficult. In Cambodia large-scale fish traders play a strategic role in providing a link between small-scale producers and processors of fish and distant markets. Tourism has also provided an outlet for fish producers and processors through their restaurants, e.g. in Kep tourism provides opportunity for poor women to sell crabs for larger scale traders (CZM project staff *pers. com.*). In some situations, however, the larger firms create a threat to small-scale producers. In India, for example, the growth of the commercial ice box industry has threatened the traditional makers of rattan baskets for transporting fish.

The ARDB Research found that linkages with large firms are apparent in the coast and have been of varying success. Construction companies in rural areas do provide demand for labour from the rural environment but this did not appear to be a major source of employment for rural people. Urban labour rates are thought to be better than rural labour rates, and in Cambodia generally rural wage labour is very low, not as a result of low productivity (although productivity is low) or ability to pay higher wages, but as a result of the high supply and low demand for such labour (Sarathi Acharya *et al.*, 2003). The salt pan operations also provided opportunities for labourers, often women (ADB, 1998) which could be either a safety net for those displaced from other activities or an interim measure to accumulate and save for investment in other activities. Tourism offers the potential for providing employment but this did not come through in the field data as being particularly important. Aquatic resource-related linkages still seem to be the most important for example larger crab and shrimp processing enterprises outsourcing shrimp and crab peeling activities. Also the seaweed culture activities in Kampot are closely linked to a Malaysian company which has established itself locally. This has provided training, finance and markets for the products.

Rural-urban linkages

There is often spatial clustering of non-agricultural rural industries especially around rural towns although some industries also cluster in the rural environment such as silk producers in Thailand (Haggblade *et al.*, 2002). Fish related industries also tend to cluster around landing sites especially on the coast and encourage the development of service centres where linkages to larger urban markets and transport centres are better. (IMM, 2003).

A dependence on infrastructure for access to markets, sources of finance, electricity and water, and information often encourages small enterprises to cluster in rural towns and small regional centres. Such locations also provide access to raw materials and seasonal labour supplies, and may just reflect historic associations. The linkages between rural towns and the surrounding area generally become stronger as the towns become more integrated into the national urban economy (Haggblade *et al.*, 2002). In India there was considerable expansion of the rural secondary and tertiary industries along major highways and transport routes stimulated by the country's urban development (Bhalla, 1981).

Closely linked to this is the need to expand markets to absorb increasing productivity from rural secondary and tertiary industries and as a consequence strengthen the linkages between the rural economy and rural towns. Dasgupta *et al.* (2004) say that village households in India depend on, and interact with, town centres in pursuit of diversified livelihoods and strategies. Rural towns can stimulate additional agricultural/fisheries productivity by improving the range, quality and availability of inputs to these growth areas, financial services, markets and processing services (Hardoy and Satterthwaite, 1986, quoted in Haggblade *et al.*, 2002). They can also act as intermediaries between local rural supplies and non-local sources of supply, also acting as distribution centres.

In relation to East Africa herders, Smith *et al.* (2001) note that the nearer they live to towns the greater the number of livelihood options available to them. The further they are from town the fewer the options to diversify but also the lower the need to do so because they have

access to better quality pastures and livestock.

However, proximity to urban markets is not always beneficial to the diversification of the livelihoods of the poor. For example, in India increasing awareness amongst urban consumers of the benefits of hygienically produced food has resulted in an increase in demand for iced fish stored in plastic ice boxes. In some areas this has displaced many traditional fish driers and fish basket weavers from the sector (IMM, 2003b). In another study in India it was found that business development in towns generated very few wage employment opportunities for households in adjacent villages, most recruitment was from the town itself or neighbouring towns (Dagupta *et al.*, 2004). In India town-based entrepreneurs were also found not to channel market information and technologies back to village producers (Dasgupta *et al.*, 2004).

In Cambodia there is likewise a greater density of livelihood diversity in rural towns than in rural villages because of the services, knowledge and finance that these towns offer and the easy access to markets. However, Sarthi Acharya *et al.*, (2003b) note that in Cambodia few rural locales are effectively integrated into larger markets and that this lack of integration affects output disposal and input supplies.

Some demand relates specifically to the cultural and traditional demands of the population and these may remain consistent for long periods of time. The demand for processed fish in Cambodia probably goes back thousands of years and it is driven both by traditional taste references and food security concerns. Fish processed in the dry season provides animal protein for much of the rest of the year. As population has increased so demand for these products has risen. The fish processing sub-sector in Cambodia has shown a significant growth in recent years according to Sarthi Acharya *et al.*, (2003b).

The ARDB research did find urban-rural linkages in the form of labour markets, product markets and input supplies. Where infrastructure and transport improved to increase the ease of these linkages they were generally well received. In the case of fisheries resources, the buyers of fish mainly came to the landing sites and so direct linkages between coastal fishing people and urban markets were less important and bridged by intermediaries.

Competition

The relationship between urban and rural players in the market can be both positive and negative. The coming together of small industries into a common area can produce both competition and generate economies of scale. This clustering is easiest seen in rural markets where many traders compete but still recognise the value of trading in the same location. Manufacturing industries also cluster, especially in rural towns. Such strategies afford access to urban markets, allow access to credit facilities and expertise, and allow access to supplies of industrial inputs, all of which increase opportunities for expanding and diversifying rural livelihoods.

In some cases competition puts the poor at a real disadvantage. Competition between the poor and wealthier entrepreneurs often results in the poor seeking lower paid manual labour whilst those with more funds focus on more capital intensive activities (Haggblade *et al.*, 2002). Those with better access to finances and market knowledge can often block the development of other industries. Dasgupta *et al.* (2004) note that a major constraint to non-farm livelihoods in India is the existence of predatory intermediary traders blocking the flow of information on market prices and marketing opportunities and making small businesses unprofitable.

In Cambodia the lack of transparency and anti-competitive practices are seen by many businesses as a significant problem especially competitors conspiring to limit market access (World Bank Group, 2004). This has also been identified as a market failure for small-scale fish traders in Cambodia who often face local monopsonies. Sarthi Acharya *et al.*, (2003b) note that in research they carried out the majority of fisheries producers felt that intermediaries controlled prices. Qualitative research conducted in Cambodia by the

Department of Fisheries staff under the DFID-funded PHFRP also found that most poorer producers believed price control and interest rates fixed by traders to be major constraints. They note that for many producers of fish, prices have not risen much in recent years in spite of increased demand for fish and increased input costs. This is in spite of the fact that the use of mobile phone technology has improved the transparency of market information (Sarathi Acharya *et al.*, 2003b).

The World Bank Group (2004) see the lack of competitiveness between agribusinesses as the major cause of their weakness in developing. They conclude that the success of the garment industry has been its need to compete in global markets and this has led to more efficient businesses surviving.

The ARDB research found that competition was an important issue in coastal communities but more in the form of competition between people in the community itself. This resulted from a limited supply of opportunities arising and many people wishing to engage in those opportunities at the same time. The consequence, in the case of fisheries, is declining individual catch rates and increasing hostility between fishers. This is especially true when fishers from the outside (for example from adjacent countries) fished in local waters. The expansion of seaweed culture in Kampot has the potential to generate conflicts over access to appropriate sites, damage to associated aquatic habitats and declining market price but the potential impact of such changes is not well understood at this stage.

Factors relating to civil society

Civil society refers to those institutions which lie outside of the government, the market and politics. They include networks, community groups, associations and NGOs. Globally many NGOs are involved in providing support to communities to diversify. The lack of entrepreneurial experience of NGOs can be a major obstacle to working with small-scale businesses however their efforts to form self help groups (SHG) have been extensive for example the role of the Grameen Bank in Bangladesh. These may be used for savings and credit activities, for marketing or for production. To overcome their weaknesses in the commercial sector, there is a growing partnership between NGOs and commercial service providers (Haggblade *et al.*, 2002).

Given the informal nature of much of the economy of Cambodia, civil society institutions should play a major role in the development of rural life. Formal networks of people in the fisheries sector are generally weak although localised informal networking is well developed. Most trade chains are short with most of the fish being sold directly to the consumers. No fisheries trade organisations exist in Cambodia.

The NGO sector's involvement in fisheries is widespread in Cambodia. A recent Department of Fisheries study (Technical Working Group on Fisheries internal report) identified some 50 NGOs involved in the fisheries sector in some way. Some of these are involved in environmental issues concerning aquatic resources, others are concerned with wider development activities in aquatic resource-dependent communities, some are more concerned with specific fisheries related activities such as co-management structures and processes. Others are involved in micro-credit provision, supporting livelihood change, community mobilisation, group development skills, literacy and numeracy, and strengthening women's roles and rights.

The ARDB research found that NGOs such as Care and Oxfam were working in the coast and were well regarded by those who had interacted with them. In addition there were local faith based institutions such as a Moslem association lending funds for development purposes. Others such as WWF have been involved in working with communities to develop community based natural resource management programmes.

10.4 INFLUENCING FACTORS THAT CANNOT BE AFFECTED

Influencing factors that cannot be affected include those which relate to wider trends affecting the rural people, the seasonality they experience and the shocks which they periodically undergo.

Factors relating to trends

As outlined above the whole process of rural secondary and tertiary industry growth tends to follow a trend which involves a progressive shift from a focus on primary industry to greater linkages with urban and export markets. Linked to this is a trend in technology change which tends to be progressively more capital rather than labour intensive, and which tends to be supplied by urban rather than rural suppliers. As a consequence there is often a gradual displacement of demand for traditionally produced products in favour of more standardised factory produced products. This often displaces traditional rural industries and requires a restructuring of the rural economy (Haggblade *et al.*, 2002).

Linked to policies of economic liberalisation are trends towards greater globalisation of markets. These can be beneficial in providing opportunities for exporters but often result, at least in the short-term, in new competition in local markets. In the coast in Cambodia fisheries products imported from neighbouring countries are already beginning to compete with locally produced products. It is often the poor who are the least able to respond to these changes quickly enough and they tend to lose out.

There are also widespread global trends relating to over-exploitation of aquatic resources. FAO estimates that 75% of the world's fish stocks are either fully or over-exploited (FAO, 2002). Linked to this is a greater emphasis on the production of fish from aquaculture. In addition the number of people involved in fishing and fish farming has increased from 28 million in 1992 to 35 million in 2002, the highest number of fisheries and aquaculture workers are in Asia (85%). Demand for fish is also increasing, not only from increasing population but also from a greater awareness of the importance of fish in the diet.

The ARDB research found that population increase and the associated interactions were a major trend in the coast. Closely linked to this is a trend in declining catch rates by individual fishers in some parts of the coast. Urban expansion and the growth of tourism are important coastal trends but these did not seem to have particularly big effects on the communities concerned.

Factors relating to seasonality

Localised climatic differences can have significant effects on the potential or need to diversify livelihoods. Smith *et al.* (2001) say that in northern Kenya altitude affects climate and this in turn affects agricultural livelihood opportunities. In areas above 2,500 ft agriculture becomes a viable opportunity for herders and it is in these higher altitude areas that the majority of the urban populations live.

Both agriculture and fishing are seasonal activities in Cambodia and people move between them during the year. Most fishing is done during the dry season and most rice is produced during the wet season. Much of the fish processing that occurs at the village level is also very seasonal reflecting the abundance of fish supply during the January to March period. Other activities in Cambodia, such as brick making, pottery, silk weaving are less seasonal.

This seasonality of livelihood opportunities has led to widespread diversification of people's livelihood activities. This is very pronounced in people who are dependent on aquatic resources and their livelihood activities often change from one species to another or one ecosystem to another during the year.

The ARDB research found that seasonality has a major effect on people's willingness and ability to diversify their livelihood activities. Those people that are highly dependent on

aquatic resources are especially prone to livelihood change in response to seasonality. They change between ecosystems (for example being at sea and near shore) and between species (catching those which are most abundant or easily accessible during the appropriate season) as the seasons allow or dictate. This in turn affects the secondary and tertiary activities that depend upon them, for example the wives of fishers may shift from selling fish to peeling crabs in response to the husbands change in target species.

Seasonality is also an important force driving livelihood diversification and integration. For households dependent on natural resources, and particularly those dependent on aquatic resources, it is rarely possible to rely on one activity throughout the year and most households are forced to seek a variety of activities that will ensure them some form of living during different seasons.

Seasonality also affects the local demand for agricultural labour for example planting and harvesting rice. There is also a seasonality of cash flow in the villages as a result of the incomes from different seasonal activities and these affect other activities for example a decline in income from fishing may result in a decline in the willingness or ability of fishers to buy drinks from a local shop or to have breakfast at a noodle store.

Factors relating to shocks

Shocks are major adverse events which occur in unpredictable ways. Research indicates that 90% of rural households undergo a significant shock at least once a year. Such shocks can result in losses of nearly 30% of rural household incomes (Helmert *et al.*, 2003). Such shocks include crop losses due to flood, drought or pest, loss of fishing gear, of family member at sea, illness, and livestock mortality. In the coast illness-related downtime on fishing craft and declining catch rates leading to greater indebtedness and subsequent gear/vessel loss to moneylenders have been cited as important cause of household shocks (CFDO-IMM, field research data under the Cambodia Post-Harvest Fisheries Livelihoods Project, 2004). Illness also incurs major expenses in the form of health care and this is often mentioned as a cause of indebtedness.

The ARDB research found that the most commonly reported shock was that of illness or death of a key income earner within a household. This often resulted in a major shift in the livelihood activities within the household. Often this was precipitated by the need to access expensive health care which was frequently associated with indebtedness and sometimes loss of assets such as land.

Other less damaging shocks were the introduction, or enforcement, of legislation which seriously affected people's livelihoods. When this is done without adequate time for people to adjust their livelihood activities this can cause significant short-term problems.

Natural disasters are always associated with the sea and the loss of fishing equipment due to adverse weather or theft were raised as important concerns. In Kamport Province seawater inundation was cited as a problem causing reduced agricultural productivity.

10. KEY FINDINGS AND IMPLICATIONS OF THE RESEARCH

11.1 KEY FINDINGS FROM THE RESEARCH

The analysis of the research findings in the framework above has identified some key findings which help to understand what is happening in terms of aquatic resource dependency and livelihood diversification in the coast and these findings suggest important implications for any development strategy for the future. These findings and their implications are summarised below.

The dependence of some coastal people on coastal aquatic resources is very high. This is largely related to the opportunities offered by the diversity of ecosystems and species that in turn provide people with a wide range of opportunities to suit their changing needs under differing financial, seasonal and environmental conditions.

The aquatic and coastal environments offer a wide diversity of species and habitats to exploit. This in turn creates a wide array of livelihood opportunities that households can migrate between to address seasonal and other changes that either increase or decrease risk, costs and incomes. Where dependency on aquatic resources is high, people tend to move between different aquatic resource-based activities depending on their relative benefit flows e.g. from crab fishing to Vietnamese squid potting, mangrove cutting to mangrove snail collection, or fishing to aquaculture.

This indicates:

- the importance of aquatic resources in providing for the needs of many different stakeholder groups and thus why they provide such an important social and economic safety net;
- the difficulty in getting people to reduce their dependency on aquatic resources unless much more rewarding, and/or less physically arduous opportunities exist.

For most aquatic resource users, dependence on aquatic resources is based on the benefits that it generates, not deep rooted cultural factors. Where viable alternatives offer better or equivalent benefits, people will generally take them up.

The entry and exit barriers to exploitation of aquatic resources are often low compared to other non-coastal environments, allowing easy movement into and out of different sectors. For example, barriers to entry into small-scale fisheries are generally low, and sea areas for setting up seaweed farms are open-access. People have used this to enter and leave the exploitation of aquatic resources when better opportunities arise or where circumstances force them to give up their previous activities. Even for those who have been involved in fishing for generations, their response to alternative livelihood options tends to be very pragmatic and livelihood outcome oriented (income, working conditions, legality, risk). Where viable non-aquatic resource alternatives, which offer as good as or better return on capital and labour under acceptable risk and working conditions, are available then people in the main have few reservations about taking these up. There are, however, a few exceptions to this general finding and in some coastal communities fishing is very much a secondary activity and people's main livelihood focus may be land based as in the case of agriculture.

This indicates:

- the ability of the rural poor to judge the relative value of livelihood options available;
- the willingness to change to those options that offer the best returns in a given situation;
- that in the main, coastal people do not consider themselves to be linked to fishing through some form of deep-rooted socio-cultural identity with those resources - rather they exploit aquatic resources because they offer the best opportunity for them at that

time;

- that this in turn offers the opportunity to use livelihood diversification as a natural resource management policy instrument in Cambodia in ways that may not be possible in some other parts of the world.

For households in coastal areas, livelihood diversification seems to be an essential part of livelihood strategies.

Most households in coastal Cambodia are already diversified in their livelihood strategies. This is most pronounced in households that depend on aquatic resources. This often takes the form of household vertical integration and seasonal diversification (where individual may change their livelihood activities). In household vertical integration the husband/grown son often catches fish whilst the wife/grown daughter processes and/or sells the product. There may also be diversification across primary activities such as fishing, mangrove snail collection and mussel farming. Seasonal diversification also occurs to take advantage of the changing seasonal abundance of different aquatic resources (for example moving from mangrove crab harvesting to swimming crab harvesting as the seasons change, or moving from bivalve farming in the dry season and fishing in the wet season) or to compensate for declining access to opportunities such as not being able to fish in rough seas.

Even when not dependent on aquatic resources there is household diversification and the different livelihood options that households depend on are often interdependent and change over time (particularly in relation to the age and health of household members). This helps to balance risks, labour availability and income. In so doing there is considerable asset conversion (e.g. a boat and net are sold to invest in a shop, land is used as loan collateral) to allow diversification to occur. In some cases high risk, better paid jobs have been given up for lower paid, but more stable jobs e.g. fishing for driving a moto taxi. Labouring, whether in fishing, agriculture or secondary and tertiary sectors, is often used as a risk minimising activity, particularly by poorer households.

This indicates:

- that in the main coastal people have both the experience of, and inclination towards, livelihood diversification;
- that they tend to treat the household as the basis for livelihood decisions and make those decisions, at least in part, based on a portfolio of related risks and incomes.

Where they have the capacity, households actively seek to integrate related but diversified activities and create progressive opportunities for enhancing their livelihood outcomes.

Whilst in the main the form of diversification tends to be either vertical integration or seasonal diversification within broad sectoral areas (such as fishing or agriculture), there are also quite a few cases of cross-sectoral integration between livelihood strategies e.g. banana growing provides stems for pigs; cooking food for sale provides food for pigs; rice milling provides waste for food and pig feed; coffee shop provides outlet for soup, noodle and cakes.

Income from one activity is often used to fund another related, and often integrated, activity. This diversification through integration seems, to a certain extent, to be actively pursued as a strategy in itself. Within a particular community there is often considerable interdependence of different households creating an intra-community market for goods, services and finance.

This indicates:

- that the poor have at least some understanding of the benefits of specialization afforded by vertical integration;
- that the market outlets for many of the goods and services produced in the community are

generally limited;

- that the social resources within the communities is generally fairly high.

Household livelihood strategies, and the ways in which they change, are often closely linked to their social resources – the networks of family, friends, neighbours, employers and patrons – that surround them.

Household strategies are often linked into a wider community mixed group where households are linked by lending, skill transfers, employment, advice on risk and potential of different options, markets, competition and conflict. The very poor tend to rely more on their neighbours than their family, whereas wealthier groups tend to depend more on family sharing. Exchanges in knowledge and resources tend to be within wealth strata and less so between them.

Given the common perception that “community” ties are relatively weak in Cambodia as a whole, this is significant. Many of these social networks may be “intra-community”, involving extended families, neighbourhoods or villages within communes where people have a common sense of identity. There seems to be greater collaboration and cooperation between those people who depend upon aquatic resources than those who do not.

This indicates:

- the strength of social resources in communities and the potential of this to enhance livelihood change.

Geographical mobility is also an important part of the livelihood strategies of at least some people on the coast.

Geographical mobility is important, particularly in Koh Kong Province where many of the people are migrants into the area. People on the coast generally move in pursuit of work and family members frequently leave the household temporarily or for longer periods to take advantage of work opportunities elsewhere. Considerable movement was seen between the two coastal provinces studied and between inland and the coast. Work in urban areas by some household members, either seasonally or longer term, is an increasingly common part of household livelihood strategies. For those involved in aquatic resource use, and particularly fishing, the better access to fisheries resources in the Koh Kong area has acted as an important attraction. This attraction now seems to be diminishing.

This indicates:

- that most people will respond to livelihood opportunities where ever they are created.

Location, especially the proximity to markets, plays an important part in determining how people seek to diversify.

People in locations close to border areas – with Thailand and Viet Nam - make considerable use of the opportunities offered by cross-border trade and service provision, including access to new skills and knowledge, and these are rapidly assimilated into livelihood strategies. However, the full benefit flows from that trade are rarely captured by the communities concerned.

Likewise people located near developing markets e.g. for the seaweed/ tourism, rapidly make use of these opportunities. People living in locations with easy access to urban centres do incorporate that access into their livelihood possibilities, although they often enter the urban market at its “lowest” level as seasonal or occasional labourers.

This indicates:

- that when opportunities are created, people are willing to take up those opportunities;
- that closer links to regional markets have considerable potential for expanding livelihood

opportunities if people are provided with the capacity to fully take up those opportunities.

The diversity and outcomes of household livelihood strategies are linked to the age of household members and the size of the household.

There appears to be a life cycle in a household's mixed group of livelihood activities. Young adults tend to focus on active work such as fishing, pole cutting, seaweed farming and labouring. Where they live with parents, these may be part of broader and more diverse livelihood strategies for the household as a whole. Where they live separately, perhaps with young children, their opportunities for diversity, and their livelihood outcomes, are often more limited. As people get older they, individually, move towards more sedentary livelihood activities such as fruit tree growing, alcohol production, pig rearing, and vegetable production while more active work is taken over by grown-up children and the opportunities for household livelihood diversification will increase. Large households are generally viewed as an asset. They provide greater security for the old, they offer the opportunity for wider diversification and thus reduce risk, and they allow labour to be switched between activities when required. The drawbacks of large households are also understood, but they seem to be regarded as less significant than the advantages offered by having a larger pool of labour and skills.

This indicates:

- that the structure and composition of households is an important determinant in the success or failure in taking up new opportunities.

Gender has a strong influence on how individuals contribute to household livelihoods.

Within households, men and women play distinct roles in livelihood diversification and in the development of household livelihood strategies. This is most pronounced in the case of households highly dependent on aquatic resources where distinctly different roles are often played by men and women but they may be linked e.g. the man may be a fisherman and the woman a crab peeler or snail collector.

In some households young women are increasingly taking work outside the household (as servants or factory workers in urban areas) to support the household. At marriage the husband or wife move to the community of their spouse and so are affected by the livelihood opportunities there. Women's involvement in child rearing and care for the elderly clearly affects their capacity to contribute to other household livelihood activities. For many women, their role in the household livelihood strategy is more important than the decision-making powers they are allowed. In many cases women are the household head which places an additional burden on them.

This indicates:

- that the provision of support for livelihood change needs to take into consideration these gender roles, rights and responsibilities.

Poorer groups are active in seeking out the skills and knowledge they require in order to diversify, enhance or change their livelihood activities. Usually they acquire these from parents, family, friends, neighbours or employers.

Poor people tend to have considerable reliance on human resources, especially skills and knowledge, to enable them to diversify and are most successful when this is the basis of the livelihood change. New skills and knowledge seem to be actively sought out and are mainly accessed through parents, relatives, friends, neighbours and employers rather than through formal mechanisms. Education is seen as a contributing factor to the success of richer families and is valued when it is provided free of charge through projects. Where possible, people will try to identify and access better quality education, such as in Thailand. However, for the very poor the idea of investing in children's education often seems too remote a strategy given the

costs involved and the effective loss of household labour. The poor are more immediately interested in vocational training that relates directly to specific livelihood opportunities that they can see as a viable addition to their household mixed group. The quality and cost of locally available education is also a major factor in determining its uptake and use.

This indicates:

- that the poor place considerable short-term emphasis on directly applicable vocational training to enhance their livelihood opportunities;
- that as people become better off they are able and willing to invest in education;
- that such investment is seen as beneficial, although often out of reach, for livelihood change.

Health is a major factor in determining livelihood strategies with households that have suffered as a result of disease or disability constituting an important part of the poorest groups.

Health determines what people can do and the cost of medical treatment affects savings and borrowings and thus investment and indebtedness. Ill health plays a major role in the livelihoods of all groups but especially the poor where medical bills can lead to indebtedness, land loss and loss of other productive assets. Disabled household members also limit movement of others to outside work. Health is an important “push” factor in determining livelihood diversification or change (often with declining livelihood outcomes) although family networks are often called upon to compensate for livelihood changes as a result of health factors.

This indicates:

- that health, and the cost of and access to health care, play such a vital part in people’s ability to change their livelihoods, that it should be a major part in support for livelihood change.

Households use a range of sources to access the financial resources they need for livelihood diversification. Formal credit access is limited by collateral requirements but many alternatives seem to be available through the informal sector and social networks.

Land acquisition is often an important step in accessing more formal credit systems, and where the government has made this easy (as in the case of measures to promote migration to Koh Kong or to settle returning refugees post-conflict) this has allowed even the poor to gain access to credit. Other physical resources such as houses and cows can be used as collateral but there are often complex and /or inflexible conditions for loans such as the need for guarantors and repayment conditions.

While there are cases of people losing their land as a result of taking out formal loans, many seem to have been able to use them effectively to diversify, enhance or change their livelihoods. In the majority of cases however, people get funds for diversification from a range of sources such as friends, relatives, middlemen or neighbours and combine these to both achieve their level of desired credit and to offset the risks associated with any one source. Traders and middlemen in particular play a major role in stimulating and financially supporting the development of livelihood alternatives and providing market access.

Those people who are highly dependent on aquatic resources tend to find it easier to get credit because they generate an income on a daily basis; farmers have to wait until a crop produces a harvest before they can start repayments.

This indicates:

- the importance of a diversity of credit mechanisms for funding livelihood change;
- the importance of adapting credit mechanisms to suit the needs of different stakeholder groups;
- that credit mainly from sources within the village severely limits the total available finance for livelihood change within a community;
- the importance of secure land title in access credit and thus achieving livelihood change;
- the potential of those people who are highly dependent on aquatic resources to easily access credit to stay within their current livelihoods, but less so to diversify out of that dependency.

Awareness of markets and the role they play in the viability and sustainability of new livelihood activities seems to be relatively good although there are some cases of too many people becoming involved in new activities creating competition and even conflict.

When opportunities are created there is no shortage of people willing to take them up. However, the limited number of opportunities means that there are sometimes major swings in the direction of these opportunities with many people entering them at once (e.g. grouper fattening, seaweed culture, pole cutting). This can result in competition and a decline in the benefits generated for participants. This is not a major concern if the particular livelihood strategy in question is just one part of the overall household strategy mix but where it becomes the mainstay of people's livelihoods it can be a concern and make them more vulnerable to sudden changes in market conditions. For at least some of the communities studied the markets for some products tended to be local or controlled by one or two buyers from outside. The poor are often closely linked to these traders and have little control over those markets.

Where good cross-border markets existed competition between suppliers was less of an issue and in some cases people show considerable initiative in seeking out alternative markets (markets for seaweed in Koh Touch, Kampot Province are a case in point). This implies a need for a sound understanding of markets and many of the people interviewed expressed an understanding of, if not the means to affect, market forces on their livelihoods.

This indicates:

- the importance of improved market knowledge for viable livelihood change.

The ability or need to diversify is rarely dependent on a single "push" or "pull" factor. Rather it is a combination of factors that link together to make change possible, desirable or necessary

Individual "push" and "pull" factors may seem to stand alone in their influence e.g. drought seems to be a push factor to get people to move out of agriculture into fisheries and other activities. Bridges and roads have helped access to labour and commodity markets. Seasonality of opportunities creates the need for a diversified set of livelihood activities. In some cases "push" and "pull" factors operate together e.g. the decline of fish resources has pushed people out of fisheries but access to new resettlement land has also encouraged people to move into fish culture. However, the ability or need to diversify is rarely dependent on a single "push" or "pull" factor. Rather it is a combination of factors that link together to make change possible, desirable or necessary.

In different locations there are different factors at play but in many cases there are common "push" and "pull" factors operating along the coast.

A predominance of push factors applied to poorer people tends (but not always) to result in those people moving into less desirable livelihood activities and a predominance of pull

factors tend to allow richer people to move into more desirable livelihood activities. These “push” and “pull” factors combine to make a rather complex mixed group of risks that the household tries to manage. The preponderance of “push” factors associated with any planned government policy is likely to have greater negative influences on the poor and this needs to be taken into account.

This indicates:

- the complexity of developing strategies for enhancing viable livelihood change;
- that single issue responses are unlikely to be successful.

Government policies and the way in which they are implemented do have important impacts on people’s livelihoods. In the coast, this has often been manifested through measures to protect and conserve coastal resources.

Most of the push and pull factors above have an element of government policy in them and as such government policies have a significant effect on people’s lives. Examples are the ban on logging affecting transport, enforcement of mangrove cutting restrictions reducing charcoal-making opportunities, positive support for inward migration in Koh Kong, mangrove conservation increasing the availability of mangrove snails for women to harvest. Co-management regulations have in some cases pushed people into different new activities such as oyster and mussel farming. This in turn has increased the demand for poles and created new opportunities. The emergence of commune councils in villages have facilitated access to government which has allowed problems to be raised and solved.

This indicates:

- that policies have complex effects and those effects need to be understood as part of the policy process;
- that if government policies are planned well and implemented properly they can have a major positive effect on people’s lives.

Development interventions that address the complexities of people’s livelihoods are essential and are likely to be more effective than single issue interventions.

Development projects, either government or NGO, tend to have positive effects when targeted at addressing the complexity of the needs of communities. CZM projects that have worked agriculture, water-use and fish farming in an integrated way seem to respond well to the complexity of household livelihood strategies. However, less targeted and “blunter” development initiatives, such as road construction, or the provision of health clinics or water supply systems, may have mixed responses for different groups. In the main, initiatives to help the poor to adopt livelihood change, which have started from a single issue position (such as credit provision, co-management) have tended over time to diversify the services provided until they become much more holistic.

This indicates:

- that taking a much more holistic approach from the start is likely to generate better results faster;
- that this will require multi-agency approaches if it is to be successful.

These findings broadly agree with what has been found in other parts of the world. They do, however, indicate the importance of the way local factors interact with the local situation and its historic evolution. The application of generic formulae for addressing potential factors is unlikely to work.

They also indicate the complexity of livelihood change and the need to embrace and respond

to that complexity if any lasting impact is to be achieved.

11.2 IMPLICATIONS OF THE RESEARCH

Before suggesting what the implications are of the research for any future strategy for Cambodia it is worth considering what other researchers around the world have found and suggest as strategic approaches.

Background

Diversifying the rural economy is seen by many development practitioners as a key approach to rural development for a variety of reasons as discussed above. Barrett and Reardon (2000) note the importance of understanding diversification behaviour because it may help in developing policies which allow effective targeting of development support to the poor, and it can redress impediments to the smooth operation of factor markets in land labour and capital that condition on and off-farm investments.

These points are important in the Cambodian context and developing approaches to respond to the situation in rural Cambodia is essential if the knowledge we have gained is to be applied and impacts achieved. However, this is less easy than might be expected. NRI (2000) says that policy prescriptions for improving the non-farm sector are presently few or weak and lack sound empirical foundations. Lanjouw (1999) says that it is difficult to provide broad policy prescriptions for promoting the rural livelihood sector as a whole because it comprises a very wide spectrum of activities and institutional forms, and is linked in complex ways to country specific agricultural settings. Gordon (1999) attempts to develop a broad categorisation of interventions and identifies four broad strategies to promote livelihood change:

1. Macro-economic management and economic growth promotion;
2. Targeted interventions in specific sub-sectors;
3. Poverty-led approaches to improve livelihoods of the poor;
4. Mainstreaming livelihood change.

Haggblade *et al.*, (2002) summarise the lessons learnt from various evaluations of different RNFE development approaches. These are outlined below:

1. ***Policies matter***: macro-level policies, sectoral policies and sub-sectoral policies all influence opportunities for rural non-farm firms. Complementary policy instruments such as a sound regulatory and legal system, property rights for the poor, contract enforcement, marketing institutions, and safety standards are all important.
2. ***Invest in human capacity***: focussing on education for the poor offers one of the very few politically feasible means of helping poor children out of poverty.
3. ***Adequate rural infrastructure is essential*** : whilst most of the literature agrees with this suggestion, its application is not easy. Standardisation of approaches needs to be replaced by location-specific interventions.
4. ***Financial institutions facilitate growth and transition of the RNFE***: effective savings and credit schemes are essential to RNFE growth but they are unlikely to be the drivers.
5. ***Identify growing markets***: successful efforts at RNFE promotion begin with identifying and expanding key sources of demand for rural non-farm goods and services then linking supplies to these demand sources.
6. ***Recognise the importance of rural commerce and services***: many emerging opportunities will lie in commerce and services such as private education, health, entertainment, prepared foods, and communications and transport. These should be

considered as an important source of growth as well as secondary industries.

7. ***Liberalisation demands competitive thinking***: new industries are operating more and more in liberalised economies and this places a greater burden on new rural industries to compete effectively.
8. ***Technology offers a key tool in the transition to higher productivity activities***: lowering costs and raising quality and standards requires new ways of doing business. Ultimately the transition from low-wage, low-productivity non-farm pursuits to higher wage, higher productivity activities will require access to new production technologies as well as investments in human resources.
9. ***Leverage, the simultaneous impact on many like firms, provides a common key to cost-effective interventions***: because rural enterprises are small, interventions must affect many simultaneously to generate sufficient income to defray the costs of the intervention.
10. ***Tailor interventions across settings***: generalised approaches are less likely to work than those tailored to specific situations and needs.

These lessons suggest three general strategies for the way forwards:

1. Identify engines of regional growth to match supply and demand for RNFE outputs;
2. Undertake supply chain analysis to identify bottlenecks that affect many like firms for cost effective and leveraged interventions;
3. Build flexible institutional coalitions to implement RNFE interventions, rather than create expensive new bureaucracies.

Strategic considerations of the ARDB research

The global literature as discussed above provides some broad strategic considerations for moving forwards, these are largely supported by the current research but this research highlights the importance of adapting such considerations to local conditions. The key considerations for moving forwards which emerge from the ARDB research are more specific to the needs of rural people in Cambodia. It also highlights the importance of not selecting any one of these approaches in isolation from the others. Their effectiveness is likely to be as a result of their combined use.

Whilst they have been developed from research in the coast many of the LEDCON group of field practitioners acknowledged that they had application in inland aquatic resource-dependent communities also. It must, however, be remembered that these findings are from a relatively small sample studied over a short time period. They should be viewed in the broader context of the multitude of other longer-term activities in the coast. The considerations are as follows:

1 – Because livelihood diversification is already an important part of the livelihoods of many aquatic resource users, support for livelihood change could play an important role in reducing dependence on aquatic resources and so creating a more favourable environment for improving aquatic resource management.

This is a very significant finding in that it clearly supports the viability of using livelihood diversification as a strategy for reducing pressure on the aquatic resource base. This needs to be a much more important component of natural resource management strategies for the future.

2 - Livelihoods and the factors that affect them in coastal areas are complex. Interventions need to understand that complexity and build on the strengths of existing livelihoods, especially the social resources which exist in communities.

Single issue strategies or “off-the-shelf” responses to livelihood change are unlikely to succeed. This has been demonstrated in many parts of the world and is equally applicable in Cambodia.

3 – Being close to foreign markets (particularly Thailand & Vietnam) creates opportunities for livelihood diversification and change. Greater emphasis on better linkages with regional markets could provide new opportunities in the future.

There are growing linkages between coastal communities and foreign markets which seem to be connected to the poor rural-urban links that would have been expected. It is likely that these linkages will increase as the differences between urban demand and rural supply weaken.

4 - Better linkages and information flows between coastal communities and national markets would also increase local people’s choices regarding their livelihoods. It could also increase their share of benefits. Given, the importance of their role, it will be necessary to involve middlemen in this process.

Connections between many of the people studied and local markets were either limited or mediated by middlemen. There will be the potential for goods and services from secondary and tertiary industries to supply these markets in the future provided adequate information flows are established early enough. Middlemen need to be included in this process.

5 – Improved access to effective, low-cost health care facilities and services would play a major role in helping households to improve their livelihoods, especially for the poor.

The importance of health to livelihoods of so many poor people and the extent to which health affects those livelihoods makes it a vitally important part of any forward strategy. As such it emphasises the importance of cross-sectoral coordination and the need for multi-agency approaches.

6 - In the short to medium-term, relevant, vocational skills and knowledge seems to be a priority for livelihood improvement, especially for the poor. However, improved access to appropriately costed education is also necessary in the medium to long term.

This might appear a rather controversial consideration but it is not meant to suggest a greater need for vocational training than formal education. There was certainly a real shortage of vocational training in the communities visited, a demand for it and an appreciation of it where provided. Education is also seen as very important but difficult for many of the poor to access. There is a need for a combination of both vocational and more formal education with perhaps an emphasis on the vocational in the short-term. A focus on vocational training for young people who have not yet entered the fishery has been demonstrated to be an effective mechanism for reducing recruitment to the sector and is likely to be so in Cambodia. Again it emphasises the importance of cross-sectoral coordination and the need for multi-agency approaches.

7 - Appropriate credit mechanisms that are suited to the needs and capacities of different stakeholder groups are critical for improving the outcomes and the speed of livelihood change.

Livelihood change is constrained in many areas of the coast by a dependence on a recycling of intra-community finance which limits the extent and speed of livelihood growth. The ability to tailor credit and micro-finance to the needs of different stakeholder groups will greatly increase investment levels in these communities and aid economic growth.

8 - Formal title over land is very important for people to diversify their livelihoods and to access credit, especially for larger loans, to take up different livelihood opportunities.

Whilst title over land is not the only collateral available for securing loans, it remains an important one. Perhaps equally importantly is the willingness of people to invest in secured

These points need to be carefully considered in the context of rural development in Cambodia. Most importantly, they should not be considered as stand-alone points but rather as elements that contribute to a comprehensive intervention strategy where the elements are interdependent and mutually supporting.

11. 3 CONCLUSIONS

The ARDB research set out to increase knowledge and to build capacity amongst the partners involved. This has largely been achieved as we have all learnt from each other and from the communities that we have worked with. We have also tried to learn from wider global research and bring those lessons to the Cambodian experience. It is hoped that this research will also go to inform development activities in other countries.

The research has also given us a better understanding of the factors which affect household livelihood choices from macro to micro levels. Using the SL framework also provides us with a structured way of relating and using those factors, and applying and testing their application in other situations.

The research has been a rather short, geographically limited and qualitative exercise but it has begun to represent the livelihood changes of poor rural people in a more systematic way and it has opened up a window on the both the complexities of livelihood diversification, the livelihoods of the rural poor and the opportunities that diversification can bring. Perhaps most significantly it shows the importance of understanding the linkages between natural resource management and poverty reduction and the need to work in both these areas simultaneously.

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